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Economy

1. MACS 1407

Why in News?

- Scientists from MACS- Agharkar Research Institute (ARI) Pune in collaboration with the Indian Council of Agricultural Research (ICAR) have developed a variety of Soybean called MACS 1407.

About

- MACS 1407 is a **high-yielding** and **pest-resistant variety of soybean**.
- Cultivation ➔ It is suitable for **rain-fed conditions** of **north- east India**.
- It is suitable for cultivation in the states of **Assam**, **West Bengal**, **Jharkhand**, **Chhattisgarh** and **North-Eastern states**.
- Key Features ➔
    - MACS 1407 requires an **average of 43 days for 50 % flowering**. Further, it **takes 104 days** to mature from the date of sowing.
    - It has **white coloured flowers**, **yellow seeds** and **black hilum** (a scar on a seed marking the point of attachment to its seed vessel). Its seeds have **19.81 % oil content**, **41 % protein content** and **show good germinability** (the ability of a seed to germinate).

Advantages:

- High Yielding ➔ It gives **39 quantal per hectare** making it a **high yielding variety**
- Pest Resistant ➔ It is **resistant to major insect pests** like girdle beetle, leaf miner, leaf roller, stem fly, aphids, whitefly and defoliators.
- It has certain characters suitable for **mechanical harvesting**. Such as,
    - It has a thick stem that makes it **stronger to harvest** using machines.
    - This variety has **higher pod insertion** (7 cm) from the ground
    - It is **resistant** to **pod shattering**.

Significance:

- In **2019**, India produced around **90 million tons of soybean**, widely cultivated as oil seeds as well as a **cheap source of protein for animal feed** and **many packaged meals** and is striving to be among the world's major producers of soybean.
- **High-yielding**, **disease resistant varieties of the legume** can help achieve this target.

2. Global Electric Vehicles Outlook 2021

Why in News?

- International Energy Agency (IEA) has released a report titled "Global Electric Vehicle Outlook Report,2021".

About

- What is it? ➔ The Global EV Outlook (GEVO) is an **annual report published by IEA**.
- Purpose ➔ The report looks at the **latest EV trends**. Apart from that, it also looks at the **drivers for road transport sector electrification** around the world.

Key Findings related to India

- **More than 30%** of the new vehicle sales in India will be **electric by 2030**.
- Electric Vehicles(EV) deployment in India will mainly be **achieved through the electrification** of **two/three-wheelers**. The report mentions that electric two/three-wheeler sales will reach a sales share of **almost 50% by 2030**.
- However, the **lack of government spending** under the **FAME II Scheme** has **delayed** EV deployment in India.

International Energy Agency(IEA)

- It was established in **1974** as an **autonomous intergovernmental organization** under the OECD framework.
- Objective ➔ To **ensure reliable**, **affordable**, and **clean energy** for its member countries and beyond.
- Focus areas ➔ It has four main areas of focus: a) **Energy security** b) **Economic development** c) **Environmental awareness** and d) **Engagement worldwide**.
- Members ➔ It has 30 member countries and eight association countries. **India became an associate member** in **2017**.
- Oil Stock ➔ IEA member countries need to maintain total oil stock levels equivalent to at least 90 days of the previous year's net imports.
- Secretariat ➔ **Paris, France**.

3. Purchasing Managers' Index

Why in News?

- The seasonally adjusted IHS Markit India Manufacturing Purchasing Managers' Index (PMI) was at 55.5 in April 2021, little changed from March's reading of 55.4.

About

- Compiled by ➔ **IHS Markit** for **more than 40 economies** worldwide.
- What is it? ➔ It is a **survey-based measure** that asks the respondents about changes in their perception about key business variables as compared with the previous month.
- Purpose ➔ The purpose of the PMI is to **provide information about current and future business conditions** to company decision makers, analysts, and investors.
- It is **calculated separately** for the **manufacturing and services sectors** and then a **composite index** is also constructed.
- Score ➔ The PMI is a number **from 0 to 100**.
    - A print **above 50 means expansion**, while a score below that denotes contraction.
    - A reading at **50** indicates **no change**.
- If PMI of the previous month is higher than the PMI of the current month, it represents that the **economy is contracting**.
- It is usually released at the **start of every month**. It is, therefore, considered a **good leading indicator** of economic activity.
- Significance ➔ As the official data on industrial output, manufacturing and Gross Domestic Product (GDP) growth comes much later, PMI **helps to make informed decisions** at an **earlier stage**.
- Difference between **Index of Industrial Production** (IIP) and **PMI** ➔
    - **IIP covers the broader** industrial sector compared to PMI.

- However, **PMI** is **more dynamic** compared to a standard industrial production index.

4. Pradhan Mantri Mudra Yojana

Why in News?

- More than 28.68 crore loans for an amount of Rs. 14.96 lakh crore have been sanctioned by banks, NBFCs and MFIs since the launch of Pradhan Mantri Mudra Yojana (PMMY).

About

- Background ➔ It was launched by the government in **2015** for **providing loans up to Rs. 10 lakh** to the non-corporate, non-farm small/micro-enterprises.
- Funding Provision ➔ MUDRA, which stands for **Micro Units Development & Refinance Agency Ltd**., is a **financial institution** set up by the Government.
- It provides funding **to the non-corporate small business sector** through **various last-mile financial institutions** like Banks, Non-Banking Financial Companies (NBFCs) and Micro Finance Institutions (MFIs).
- MUDRA does **not lend directly** to micro-entrepreneurs/individuals.
- Three Products ➔ MUDRA has created **three products** i.e. 'Shishu', 'Kishore' and 'Tarun' as per the stage of growth and funding needs of the beneficiary micro unit.
    - **Shishu** → Covering loans up to Rs. 50,000.
    - **Kishore** → Covering loans above Rs. 50,000 and up to Rs. 5 lakh.
    - **Tarun** → Covering loans above Rs. 5 lakh and up to Rs. 10 lakh.
- Loans under this scheme are **collateral-free loans**.
- Significance ➔ Loans have been **given to disadvantaged sections** of society such as women entrepreneurs, SC/ST/OBC borrowers, Minority community borrowers, etc. The **focus** has also been on **new entrepreneurs**.

5. India Begins Exports of Organic Millets

Why in News?

- Recently, the Ministry of Commerce and Industry announced that the first consignment of organic millets would be exported to Denmark.

About National Programme for Organic Production (NPOP)

- The NPOP has been **implemented by APEDA** since its inception in 2001 as notified under the Foreign Trade (Development and Regulations) Act, 1992.
- NPOP covers **standards for crops and their products**, live stocks and poultry products, aquaculture, apiculture etc. The exports from the country are as per the provisions in NPOP.
- The **NPOP certification** has been **recognized by the European Union** and **Switzerland** which enables India to export unprocessed plant products to these countries without the requirement of additional certification.
    - It also facilitates **export of Indian organic products to the United Kingdom** even in the post Brexit phase.
- NPOP has also been **recognized by** the Food Safety Standard Authority of India (**FSSAI**) for trade of organic products in the domestic market.

- Organic products covered under the bilateral agreement with NPOP **need not to be recertified** for import in India.

👉 Agricultural and Processed Food Products Export Development Authority

- Formation ➔ APEDA was established by the Government of India under the **Agricultural and Processed Food Products Export Development Authority Act, 1985**.
- Ministry ➔ It functions under the **Ministry of Commerce and Industry**.
- Headquarters ➔ **New Delhi**.
- Mandate ➔ It has been mandated with the **responsibility of export promotion** and **development of the scheduled products** viz. fruits, vegetables, meat products, dairy products, alcoholic and non-alcoholic beverages etc. It has also been entrusted with the responsibility to **monitor import of sugar**.

6. Social stock exchanges

Why in News?

- SEBI's technical group (TG) on social stock exchanges (SSEs) has submitted its report. The expert panel was headed by Harsh Bhanwala, ex-Chairman, Nabard.

About SSE

- What is it? ➔ SSE is a **platform** that **allows investors to invest** in select **social enterprises** or **social initiatives**.
- Social Enterprise is a **revenue-generating business**. The primary aim of social enterprise is to **achieve a social objective** such as providing healthcare or clean energy.
- Aim ➔ To help social and voluntary enterprises to **raise capital in form of equity** or **debt** or **a unit of the mutual fund**.
- Global Examples ➔ SSE exists in countries such as **Singapore**, **UK** among others. These countries **allow firms operating in social sectors** to raise risk capital.
- India ➔ The proposal to set up SSEs in the country was **first floated** during the **Union Budget in 2019**.
- In 2019, SEBI constituted a **group** under the **chairmanship of Tata group veteran Ishaat Hussain**.
- In 2020, SEBI again set up **the Technical Group(TG)** under **Harsh Bhanwala**, ex-Chairman, NABARD. This time for getting further expert advice and clarity on SSE. That committee submitted its report.

👉 Key Recommendations

- Eligibility ➔
  - Both **for-profit** (FP) and **not-for-profit organisations** (NPO) should be **allowed to tap** the SSE provided they are able to demonstrate that social intent and impact.
  - **Corporate foundations**, **political** and **religious organisations** should be made **ineligible** to raise funds using the SSE mechanism.
- Modes available for fundraising ➔
  - For **NPOs**, it shall be **equity**, **zero coupon zero principal bond** (ZCZP), **development impact bonds**, social impact fund, currently known as social venture fund (**SVP**) with **100 per cent grants-in grants out provision**, and donations by investors through mutual funds.

- For **FP** enterprises, it will be **equity**, **debt**, **development impact bonds**, and **social venture funds**.

- Corpus size of the fund ➔ Minimum corpus size for such funds be **reduced from Rs 20 crore to Rs 5 crore** and the minimum subscription amount be reduced from Rs 1 crore to Rs. 2 lakh.
- The capacity building fund for SSE ➔ It should have a **corpus of Rs 100 crore**. This fund should be **housed under Nabard**. Exchanges and other developmental agencies such as SIDBI should be asked to contribute towards this fund.
- List of broad activities based on those identified by Niti Aayog under sustainable development goals that SEs can engage in ➔ These include **eradicating hunger**, **poverty malnutrition and inequality**; **promoting gender equality by empowerment of women** and **LGBTQIA+ communities**; training to promote rural sports; and slum area development, affordable housing.

7. National Financial Reporting Authority

Why in News?

- National Financial Reporting Authority (NFRA) is in the process of creating a verified and accurate database of companies (Public Interest Entities) and auditors that come under the regulatory ambit of it.

About

- It is an **audit regulator** constituted in **2018** by the Government of India under **section 132(1) of the Companies Act, 2013**.
- Composition ➔ The regulator will have **15 members** including a chairperson, three full-time members and others as part-time members.
- Functions and Duties ➔
    - **Recommend accounting and auditing policies and standards** to be adopted by companies for approval by the Central Government;
    - **Monitor and enforce compliance** with accounting standards and auditing standards;
    - **Oversee the quality of service** of the professions associated with ensuring compliance with such standards and suggest measures for improvement in the quality of service.
- Powers ➔ It can undertake **investigation and impose penalties** related to the following class of companies and bodies corporate namely:
    - Companies whose securities are **listed on any stock exchange** in India or outside India.
    - Unlisted public companies having **paid-up capital of not less than Rs. 500 crores** or having **annual turnover** of **not less than Rs. 1,000 crores**.
    - **Insurance companies**, **banking companies** and companies engaged in the generation or supply of electricity.
- Its account is **monitored by** the **Comptroller and Auditor-General of India**.
- Headquartered ➔ **New Delhi**.

8. Credit Rating

Why in News?

- Recently, the S&P Global Ratings has said that India's credit rating would be retained at the current level (BBB-) for the next two years.

About

- A credit rating is a **quantified assessment** of the **creditworthiness of a borrower** in general terms or with respect to a particular debt or financial obligation.
- A credit rating can be **assigned to any entity** that **seeks to borrow money**. An entity can be an individual, a corporation, a state or provincial authority, or a sovereign government.
- The three big Global Credit Rating Agencies are **Fitch Ratings**, **Moody's Investors Service**, and **Standard & Poor's(S&P)**.
- Credit rating agencies in India came into existence in the **late 1980s**. Some credit rating agencies **registered under SEBI** are **CRISIL**, **ICRA CARE**, and **Fitch India**.
- A **higher** credit rating **boosts the investor's confidence** in a country. Because the higher rating will interpret low risk and higher financial stability.

👉 Investment Grade Ratings?

- An investment-grade rating **signifies** the **rating agency's belief** that the rated instrument is likely to meet its payment obligations.
- In the Indian context, debt instruments rated '**BBB-**' and **above are classified as investment-grade ratings**.
- Instruments that are rated '**BB+**' and **below** are classified as **speculative-grade category ratings**
- Instruments rated in the speculative grade are considered to **carry materially higher risk** and a **higher probability of default** compared to the investment grade.

9. Puducherry becomes 'Har Ghar Jal' UT

Why in News?

- Recently, Puducherry has become 'Har Ghar Jal' UT by ensuring that every rural home in the Union Territory gets a household tap connection.

About Jal Jeevan Mission (JJM)

- Launched by ➔ the **Ministry of Jal Shakti** in **2019**.
- Objective ➔ To **provide safe and adequate drinking water** through individual household tap connections by 2024 to all households in rural India.
- The goal of the mission ➔ The goal is to have '**Har Ghar Jal**'- **every house in the village** is to be provided with a **Functional tap connection**.
- Fund Sharing Pattern ➔ The fund sharing pattern between the Centre and states is **90:10 for Himalayan and North-Eastern States**, **50:50 for other states**, and **100% for Union Territories**.

Key Features of the mission:

- The mission is a **decentralized**, **demand-driven** and **community-managed programme**. The Gram Panchayat will play a key role in planning and implementation.
- The mission includes **extensive Information**, **Education** and **communication** as a key component of the mission.
- The mission will also implement **source sustainability measures** as **mandatory elements**. This includes measures such as recharge and reuse through greywater management, water conservation, rainwater harvesting.

- Further, States will **give priority to**
  - Water quality-affected areas,
  - Villages in drought-prone and desert areas,
  - Scheduled caste/scheduled tribe majority villages,
  - Aspirational districts and Sansad Adarsh Gram Yojana villages.
- Note ➔ Puducherry has become the **fourth state** or **UT after Goa**, **Telangana** and **Andaman and Nicobar Islands** to provide assured tap water supply to every rural home under Jal Jeevan Mission(JJM).

10. Sovereign Gold Bond Scheme

Why in News?

- Recently, the Government of India, in consultation with the Reserve Bank of India, has decided to issue Sovereign Gold Bonds for 2021-22.

About

- launched in ➔ **November 2015**.
- Objective ➔ To **reduce the demand for physical gold** and shift a part of the domestic savings - used for the purchase of gold - into financial savings.
- Issuance ➔ The Gold Bonds are **issued as Government of India Stock** under the Government Securities (GS) Act, 2006.
  - These are **issued by the RBI** on behalf of the Government of India.
  - Bonds are **sold through** Commercial banks, Stock Holding Corporation of India Limited (SHCIL), designated post offices and recognised stock exchanges viz., National Stock Exchange of India Limited and Bombay Stock Exchange, either directly or through agents.
- Eligibility ➔ The bonds are restricted for sale to **resident individuals**, **Hindu Undivided Families** (HUFs), **trusts**, **universities** and **charitable institutions**.
- Features ➔
  - Issue Price → Gold bond prices are **linked to the price of gold of 999 purity (24 carats)** published by India Bullion and Jewellers Association (IBJA), Mumbai.
  - Investment Limit → Gold bonds can be purchased in the multiples of one unit, up to certain thresholds for different investors.
  - The **upper limit for retail (individual) investors and HUFs** is **4 kilograms (4,000 units)** each per financial year. For trusts and similar entities, an upper **limit of 20 kilograms** per financial year is applicable.
  - **Minimum** permissible investment is **1 gram of gold**.
  - Term → The gold bonds come with a maturity period of **eight years**, with an **option to exit** the investment after the first five years.
  - Interest Rate → A fixed rate of **2.5% per annum** is applicable on the scheme, payable semi-annually.
    - The interest on Gold Bonds shall be **taxable as per the provision of Income Tax Act, 1961**.
- Benefit ➔
  - Bonds can be **used as collateral for loans**.
  - The **capital gains tax** arising on **redemption** of SGB to an individual has been exempted.

11. PLI Scheme For Advanced Chemistry Cell Battery Storage

Why in News?

- Cabinet approves the Production Linked Incentive (PLI) Scheme 'National Programme on Advanced Chemistry Cell (ACC) Battery Storage'.

About

- It is a **₹18,100 crore** production-linked incentive (PLI) scheme for **building Tesla-style giga factories** to **manufacture batteries**.
- Nodal Ministry ➔ **Ministry of Heavy Industries & Public Enterprises**
- Aim ➔ The programme aims to **set up facilities** capable of manufacturing a **cumulative 50GWh of Advanced Chemistry Cell** (ACC) batteries.
- As part of the scheme, each selected ACC battery storage manufacturer would have to **commit to** set up an ACC manufacturing facility of **minimum 5GWh capacity** and ensure a **minimum 60% domestic value addition** at the project level **within five years**.

Significance of the scheme:

- All the demand of the ACCs is currently being **met through imports in India**.
- The National Programme on Advanced Chemistry Cell (ACC) Battery Storage will **reduce import dependence**.
- It will also **support** the **Atmanirbhar Bharat initiative**. ACC battery Storage manufacturers will be selected through a **transparent competitive bidding process**.

What are Advanced Chemistry Cells (ACC)?

- ACCs are the new generation of advanced storage technologies that can **store electric energy** either **as electrochemical** or **as chemical energy** and convert it back to electric energy as and when required.
- Sectors ➔ **Consumer electronics**, **electric vehicles**, **advanced electricity grids** and **solar rooftops** are major battery consuming sectors.

12. Business Responsibility and Sustainability Report

Why in News?

- Securities and Exchange Board of India(SEBI) has issued a circular notifying new disclosure norms on sustainability-related reporting for the top 1,000 listed companies.

About

- Background ➔ It will **replace the existing business responsibility report** that was earlier released in the business sector. Now the emphasis should be on **Sustainable reporting**.
- Sustainable Reporting is the disclosure and communication of **environmental, social, and governance (ESG) goals**. It also includes the company's progress towards **ESG goals**.
- Objective ➔ The BRSR report will **encourage businesses** to go beyond regulatory financial compliance. It will make businesses to **report on their social and environmental impacts**.
- As part of the annual BRSR report, companies will need to provide
    - An **overview** of their ESG

- The **risks and opportunities** associated with the ESG
- **Approach to mitigate** or adapt to the risks along with financial implications.

- Applicability ➔ BRSR will be applicable to the **top 1000 listed entities** (by market capitalization). The report will be a **voluntary one** for FY 2021 – 22 and a mandatory one from FY 2022 – 23.
  - Listed Entity → It is a company whose **shares** are **traded on an official stock exchange**.
  - Market Capitalization → It refers to the **total market value of a company's outstanding shares of stock**. It is calculated by multiplying the total number of a company's outstanding shares by the current market price of one share.

👉 Securities and Exchange Board of India (SEBI)

- It is the **regulatory body** for securities and commodity markets in India.
- It works under the **Ministry of Finance**, Government of India.
- Establishment Year ➔ **1988** and **Statutory Powers** given in the year 1992 through the SEBI Act, 1992.
- Composition ➔
  - **Chairman** is nominated by the central government.
  - **Two members**, i.e., Officers from the Union Finance Ministry.
  - **One member from the Reserve Bank of India**.
  - The **remaining five members** are **nominated** by the central government, out of them at least three shall be whole-time members.

13. Mission for Integrated Development of Horticulture

Why in News?

- The Ministry of Agriculture and Farmers' Welfare has provided an enhanced allocation of Rs. 2250 Crore for the year 2021-22 for 'Mission for Integrated Development of Horticulture' (MIDH).

About

- It is a scheme for the **holistic growth and development** of the Indian horticulture sector.
- Status ➔ **Centrally Sponsored Scheme**.
- Nodal Ministry ➔ **Ministry of Agriculture & Farmers Welfare** is implementing the MIDH scheme **since 2014-15**.
- Part of ➔ The scheme is being implemented as a **part of the Green Revolution** – **Krishonnati Yojana.**
- Coverage ➔ The scheme covers **fruits**, **vegetables**, **root and tuber crops**. The scheme also covers **mushrooms**, **spices**, **flowers**, **aromatic plants**, **coconut**, **cashew** and **cocoa**.
- Funding ➔
  - Under MIDH, while Government of India (GOI) contributes **85% of total outlay** for developmental programmes in **all the states except the states in North East and Himalayas**, 15% share is contributed by State Governments.
  - In the case of **North Eastern States and Himalayan States**, GOI contribution is **100%**.
- Sub Schemes ➔
  - National Horticulture Mission (**NHM**).
  - Horticulture Mission for North East & Himalayan States (**HMNEH**).
  - National Bamboo Mission (**NBM**).

- National Horticulture Board (**NHB**).
- Coconut Development Board (**CDB**).
- Central Institute for Horticulture (**CIH**).

14. SWAMIH Investment Fund

Why in News?

- Union Minister for Finance & Corporate Affairs Smt. Nirmala Sitharaman has recently handed over possession to homebuyers virtually as Government of India's Special Window for Affordable & Mid-Income Housing (SWAMIH) completes its first residential project.

About

- Launched in ➔ **November 2019**.
- Purpose ➔ SWAMIH Investment Fund has been formed to **complete construction of stalled**, **RERA-registered affordable** and **mid-income category housing projects** which are stuck due to paucity of funds.
- The fund was set up as **a Category-II AIF** (Alternate Investment Fund) **debt fund registered with SEBI**.
- The Investment Manager of the Fund is **SBICAP Ventures**, a wholly-owned subsidiary of SBI Capital Markets, which in turn is a **wholly-owned subsidiary** of the **State Bank of India**.
- The **Sponsor of the Fund** is the **Secretary**, Department of Economic Affairs, Ministry of Finance.
- Who will be the investors of the fund? ➔ AIFs created/funded under the Special Window would solicit investment into the fund from the Government and other private investors including **cash-rich financial institutions**, **sovereign wealth funds**, **public and private banks**, **domestic pension and provident funds**, **global pension funds** and **other institutional investors**.
- The residential project - **Rivali Park**, **located in suburban Mumbai**, was the **first housing project** in India to have received funding under the SWAMIH Fund.

15. Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

Why in News?

- Recently, the Prime Minister released the 8th instalment of financial benefit under Pradhan Mantri Kisan Samman Nidhi (PM-KISAN).

About

- Launched in ➔ **February 2019**.
- Key provision ➔ Under the scheme, the Centre transfers an amount of **Rs 6,000 per year**, in **three equal instalments**, directly into the bank accounts of all landholding farmers irrespective of the size of their land holdings.
- Funding and Implementation ➔
  - It is a **Central Sector Scheme** with **100% funding** from the Government of India.
  - It is being implemented by the **Ministry of Agriculture and Farmers Welfare**.
- Identification of Beneficiaries ➔ The entire responsibility of identification of beneficiary **farmer families rests with the State** / **UT Governments**.
- Objective ➔

- To **supplement the financial needs** of the **Small and Marginal Farmers** in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income at the end of each crop cycle.

👉 PM-KISAN Mobile App:

- The PM-KISAN Mobile App developed and designed **by the National Informatics Centre** in collaboration with the Ministry of Electronics and Information Technology has been launched.
- The farmers can view the **status of their application**, **update** or **carry out corrections of their Aadhaar cards** and also check the history of credits to their bank accounts.

16. E-Way Bill

Why in News?

- The Union Government has integrated the E-Way Bill (EWB) system with FasTag and RFID.

About E-Way Bill

- What is it? ➔ E-Way Bill is usually a **unique bill number generated** for the **specific consignment** involving the movement of goods.
- Under the Goods and Services Tax (GST) regime, EWBs are **mandatory for inter-state transportation** of goods valued **over Rs. 50,000 from April 2018**, with the exemption to precious items such as gold.
- It is a mechanism to **ensure** that goods being transported **comply with the GST Law** and is a **tool to track movement** of goods and check tax evasion.

👉 FASTag:

- The FASTag is a **reloadable tag** that allows **automatic deduction of toll** without having to stop for carrying out the cash transaction.
- The tag uses Radio Frequency Identification (**RFID**) **technology** and is **fixed on the windscreen** of the vehicle once active.
- RFID is the **use of radio waves** to read and capture information stored on a tag attached to an object.
- A tag can be **read from up to several feet away** and does not need to be within the direct line-of-sight of the reader to be tracked.
- From 15th February, 2021, FASTag has become **compulsory** for all vehicles across the country.
- It is operated by **National Highway Authority of India** (NHAI).

👉 Significance of Integration:

- Large Movement of Goods Vehicles
- Live Vigilance
- Stop Revenue Leakage.

17. NMMS app and Area officer monitoring App

Why in News?

- The Union Minister of Rural Development has launched the NMMS (National Mobile Monitoring Software) app and Area Officer Monitoring App.

About NMMS app

- NMMS App permits taking **real-time attendance of workers** at Mahatma Gandhi NREGA worksites along with geotagged photographs.
- Benefits ➔ This will **increase citizen oversight** of the programme. It also enables the **potential processing of payments faster**.

About Area Officer Monitoring App

- Area Officer Monitoring App facilitates area officers to **record their findings online** and even **put a time stamp** on them.
- The app can also enable the **coordination of tagged photographs** for all the schemes of the Department of Rural Development. Such as MGNREGA, PMAYG, PMGSY.
- Benefits ➔
    - This would enable the government to **record the inspections** by officials.
    - It will also **facilitate analysis** of the findings for better programme implementation.

About MGNREGA

- Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is an **employment guarantee act**. It was **introduced in 2005** through the National Rural Employment Guarantee Act,2005.
- Under the scheme, **every rural household** whose adult member volunteers to do unskilled manual work is **entitled to get at least 100 days of wage employment** in a financial year.
- Implementation ➔ **Ministry of Rural Development** (**MRD**) in **association with state governments monitors** the implementation of the scheme.
- Features of the act ➔
    - Demand-driven scheme: Worker to be hired **when he demand**s and not when the Government wants it.
    - **Gram Panchayat** is **mandated** to **provide employment within 15 days** of **work application** failing which worker is entitled to unemployment allowance
    - Payment of wages **within 15 days** of competition of work failing which worker is entitled to delay compensation of 0.05%/ day of wages earned.

18. MCA21 V3.0

Why in News?

- Recently, the first phase of the MCA21 V3.0 online portal has been introduced.

About

- MCA21 is an e-Governance initiative of Ministry of Corporate Affairs (**MCA**) that **enables easy and secure access of the MCA services** to the corporate entities, professionals and citizens of India.
- It is the **first Mission Mode e-Governance project** of GoI

MCA21 3.0

- MCA21 V3 is a **technology-driven forward-looking project**, envisioned to strengthen enforcement, promote Ease of Doing Business, enhance the user experience, and facilitate seamless integration and data exchange among Regulators.
- The project will have **Micro-services architecture** with **high scalability** and **capabilities for advanced analytics**.
- It will have additional modules for **e-Adjudication**, **e-Consultation** and **Compliance Management**.

19. Mr. Nilesh Shah Committee

Why in News?

- The International Financial Services Centres Authority (IFSCA) has constituted an Expert Committee on Investment Funds to recommend to IFSCA on the road map for the funds industry in the International Financial Service Centres (IFSCs) in India.

About

- The Committee has been constituted under the **Chairmanship of Mr. Nilesh Shah**, MD, Kotak Mahindra Asset Management Co. Ltd.
- The **Committee comprises** of leaders from the entire Fund Management ecosystem including from areas such as technology, distribution, legal, compliance, and operations.
- Terms of reference of the Expert Committee ➔
    - To recommend IFSCA on **long term vision for operations of Investment Funds in IFSC**.
    - To make recommendations with respect to **structure of Investment Funds** in IFSC.
    - To **identify issues** that may be **critical for development of the Investment Funds** industry at IFSCs including inter-regulatory issues.
    - Any **other relevant item** on building the ecosystem inter-alia on asset managers, hedge funds, PE, VC, sovereign funds, family offices, and the accompanying professional services.

20. National Company Law Appellate Tribunal

Why in News?

- Recently, the National Company Law Appellate Tribunal (NCLAT) has stayed the order of the National Company Law Tribunal (NCLT).

About NCLAT

- It is a tribunal established under **Section 410 of the Companies Act 2013**.
- Established in ➔ **2016**.
- Headquarters ➔ **New Delhi**.
- Composition ➔ **Chairperson** (should be/been judge of the Supreme Court or should be/been Chief Justice of the High Court) and **not more than eleven members** (judicial and technical members) in total.
- The Members shall be appointed on the **recommendation of a Selection Committee** consisting of ➔
    - Chief Justice of India or his nominee—Chairperson.
    - A senior Judge of the Supreme Court or a Chief Justice of the High Court— Member.

- Secretary in the Ministry of Corporate Affairs—Member.
- Secretary in the Ministry of Law and Justice—Member.
- Secretary in the Department of Financial Services in the Ministry of Finance— Member.

- The tribunal is responsible for **hearing appeals from the orders of the National Company Law Tribunals**, **Insolvency and Bankruptcy Board** of India, and Competition Commission of India (**CCI**).
- Its decisions may be **appealed to the Supreme Court**.
- Term ➔ **5 years for Chairperson** and members and they can be reappointed for additional 5 years.

National Company Law Tribunal (NCLT):

- The National Company Law Tribunal is a **quasi-judicial body** in India **adjudicating issues** concerning companies in the country.
- It was formed on **June 1, 2016**, as per the provisions of the Companies Act 2013.
- Formed based on the recommendations of the **Justice Eradi Committee** that was related to insolvency and winding up of companies in India.

21. National Mission on Use of Biomass in Thermal Power plants

Why in News?

- Recently, the Ministry of Power has decided to set up the National Mission on use of biomass in coal based thermal power plants.

About

- Aim of the mission ➔ It aims to **address the issue** of **air pollution by farm-stubble burning**. Further, it will also reduce the carbon footprints of thermal power generation.
- Objectives ➔
  - To **increase the level of co-firing** from **present 5% to higher levels** to have a larger share of carbon neutral power generation from the thermal power plants.
  - To take up **R&D activity in boiler design** to handle the higher amount of silica, alkalis in the biomass pellets.
  - To facilitate **overcoming the constraints** in **supply chain of bio mass pellets and agro- residue** and its transport upto to the power plants.
  - To consider **regulatory issues** in **biomass co-firing**.
- Implementation of the Mission ➔
  - The Mission would have a **Steering Committee** headed by Secretary (Power) **comprising of all stakeholders** including representatives from Ministry of Petroleum & Natural Gas (MoPNG), Ministry of New & Renewable Energy (MNRE) etc.
  - The **Executive Committee** would be headed by Member (Thermal), CEA. NTPC will play a **larger role in providing logistic and infrastructure support** in the proposed National Mission.
- Duration ➔ The duration of the proposed National Mission would be a **minimum of 5 years**.
- Significance ➔ The proposed National Mission on biomass will **also contribute to the National Clean Air Programme**(**NCAP**).

👉 Biomass Cofiring

- It refers to the **concurrent blending** and **combustion of biomass materials with other fuels** such as natural gas and coal within a boiler, which reduce the use of fossil fuels for energy generation and emissions without significantly increasing costs and infrastructure investments.
- Benefits of Cofiring ➔
    - Biomass cofiring is a **promising technology** to **decrease the use of fossil fuels** for energy generation and hence mitigate greenhouse gas emissions.
    - **Coal** and **biomass cofiring accounts** for the relevant advantages of a relative **ease of implementation** and an **effective reduction of CO_2** and other pollutant (SOx, NOx) emissions to the atmosphere.
    - Cofiring biomass with coal may **record no loss in total boiler efficiency** after adjusting combustion output for the new fuel mixture.

Environment

1. Net Zero Producers Forum

Why in News?

- Saudi Arabia will join the United States, Canada, Norway, and Qatar in forming 'Net Zero Producers Forum' for oil and gas producers to discuss how they can support the implementation of the Paris Agreement on climate change.

About

- Saudi Arabia, the **world's biggest crude exporter**, will be part of the new platform, which will **discuss ways** to **achieve net zero carbon emission targets** to limit global warming.
- Saudi Arabia had also said that it aimed to **reduce its carbon emissions** by **generating 50%** of the **country's energy from renewables by 2030**.
- US President **Joe Biden** unveiled plans to **cut emissions by 50%-52% from 2005 levels** at the two-day climate summit kicked off on Earth Day and attended virtually by leaders of 40 countries.

What is net-zero?

- Net-zero, which is also referred to as **carbon-neutrality**, does **not mean** that a country would **bring down its emissions to zero**. Rather, net-zero is a state in which a country's emissions are **compensated by absorption** and **removal of greenhouse gases** from the atmosphere.
- Absorption of the emissions can be increased by **creating more carbon sinks** such as forests, while removal of gases from the atmosphere requires futuristic technologies such as **carbon capture and storage**.

2. Xylophis deepaki

Why in News?

- Herpetologist Deepak Veerappan has a snake named after him.

About

- It has been reported to be an **endemic species of Tamil Nadu** and has been sighted in a few locations in the **southern part of the Western Ghats**.
- Named **Xylophis deepaki**, it is a tiny snake of just 20 cm length with iridescent scales.
- The species is named in **honour** of **Indian herpetologist Deepak Veerappan** for his contribution in erecting a new subfamily Xylophiinae to accommodate **wood snakes**.
    - Wood snakes are **harmless**, **sub-fossorial** and **often found while digging soil in farms** and under the logs in the Western Ghat forests. They feed on earthworms and possibly other invertebrates. Interestingly, their close relatives are **found in northeast India** and **Southeast Asia** and are known to be **arboreal**.
- This new species is found in the **drier regions** and in **lower altitudes around Agasthyamalai hills**. The other Xylophis were reported from cold higher altitudes, of 1,700 m and above, in the Nilgiris and the Anaimalai.
- The new find **increases** the **total number of currently recognised wood snakes** **to five species**.

3. Global Forest Goals Report 2021

Why in News?

- The Department of Economic and Social Affairs of the United Nations has released the Global Forest Goals Report 2021.

About

- What is it? ➔ It is the **first evaluation** of the global status of implementing the United Nations Strategic Plan for Forests 2030.
- Purpose ➔ The report provides an **overview of progress** towards **achieving** the **United Nations Strategic Plan for Forests 2030**. The plan has **six Global Forest Goals** and **26 associated targets** for forests.
- Data ➔ The report draws upon **data from 52 voluntary national reports** and **19 voluntary national contributions**. Together they represent **75% of forests** in the world.

👉 Findings of the Global Forest Goals Report 2021:

- The report finds that the world is making progress in key areas such as **increasing global forest area** through **afforestation** and **restoration**.
- However, the **Covid-19 pandemic** has **aggravated the challenges** faced by countries in managing their forests.
- Forests have been a **lifeline for millions of people** during the pandemic. Some of the most vulnerable segments of society depend on forests for their **most essential subsistence needs**. This has **increased pressures** on **forest systems**.

👉 United Nations Strategic Plan for Forests 2017-2030 (UNSPF):

- The first-ever UN Strategic Plan for Forests was **adopted** at a **special session** of the **UN Forum on Forests** held in **2017**.
- The plan contains a **set of six Global Forest Goals** and **26 associated targets** to be reached by 2030. All these are **voluntary in nature** and **universally applicable**.
- It also includes a **target** to **increase forest area** by **3% worldwide by 2030**. This is an **increase of 120 million hectares**, an area over twice the size of France.

👉 Also Remember:

- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (**IPBES**) has **released** the **Global Assessment Report on Biodiversity and Ecosystem Services**.
- The report highlighted that **one million species** were at **risk of extinction** and 100 million hectares of tropical forest were lost from 1980-2000.

4. Network For Greening Financial System

Why in News

- The Reserve Bank of India (RBI) has joined the Central Banks and Supervisors Network for Greening the Financial System (NGFS) as a member.

About

- What is it? ➔ It is a **group of central banks** and supervisors willing to share best practices and contribute to the development of environment and climate risk management in the financial sector.
- Background ➔ Launched at the **Paris One Planet Summit** on **December 12, 2017**.
- It also seeks to **mobilise mainstream finance** to support the transition towards a sustainable economy.
- Composition ➔ Includes **central banks** and **financial supervisors**.
- Secretariat is hosted by ➔ **the Banque de France**.

5. Asiatic Lions

Why in News?

- Recently, eight Asiatic lions at Hyderabad's Nehru Zoological Park have tested positive for the deadly coronavirus.

About

- The Asiatic Lion (also known as the Persian Lion or Indian Lion) is a **member of the Panthera Leo Leo subspecies** that is **restricted to India**.
- Characteristics ➔ Asiatic lions are **slightly smaller than African lions**. The most striking morphological character is a **longitudinal fold of skin** running along the belly of Asiatic Lions.
- Habitat ➔
    - Asiatic lions were **once** distributed to the **state of West Bengal in east** and **Rewa in Madhya Pradesh**, in central India.
    - At **present Gir National Park** and **Wildlife Sanctuary** is the only abode of the Asiatic lion.
- Protection Status ➔
    - IUCN Red List: **Endangered**
    - CITES: **Appendix I**
    - Wildlife (Protection) Act 1972: **Schedule I**.
- Threats ➔ a) **Poaching and Habitat Fragmentation** b) **vulnerability to diseases** c) **death from linear infrastructure** such as road, rail and electric fences and d) **man-animal conflict**.
- Initiatives ➔ **Asiatic lion conservation project** was launched by the Ministry of Environment, Forest and Climate Change to **protect and conserve the Asiatic Lion**.
- It is a **3 year-long** conservation project.
- It focuses on **disease management**, **habitat improvement**, **creating a wildlife crime cell** among others.

👉 Nehru Zoological Park

- It is **one of the largest zoos of India** and one of the **top sightseeing places** to visit in **Hyderabad, Telangana**. Run by the Forest department, Government of Telangana, the zoo has been named after Jawaharlal Nehru, the first prime minister of the country.
- It was **opened** to the public in the **year of 1963**.
- It is situated near the historically important **Mir Alam Tank**, which is **200 year old** and is the **first multi-arch masonry dam** in the world.

6. White-Bellied Heron

Why in News?

- Rare white-bellied heron spotted in Arunachal Pradesh. This is the first time the white-bellied heron was sighted at a height of 1,200 meters above sea level in India.

About

- The White-bellied Heron is a **rare and elusive bird**. It is the **second-largest** living species of heron.
- Characteristics ➔ The White-bellied Heron is **extremely shy** to human presence. It is **plain dark grey** in colour except for the white belly part. It has a **long neck**.
- Habitat ➔
    - It is one of the **rarest birds** in the world. At present, it is **found only in Bhutan**, **Myanmar** and **the Namdapha Tiger Reserve** in Arunachal Pradesh, India.
    - But the bird has also recorded in the **Kamlang Tiger Reserve in Lohit** district in Arunachal Pradesh through camera trap images.
- Conservation Status ➔
    - IUCN Status: **Critically Endangered**
    - Indian Wildlife Protection Act,1972: **Schedule IV**.
- Threats ➔
    - **Loss and degradation of lowland forests** and wetlands through direct exploitation and disturbance by humans
    - **Natural forest fires** have destroyed nests of Heron.

7. MayFlower-400

Why in News?

- A team of researchers from the marine research organization ProMare in collaboration with IBM built the world's first Artificial Intelligence (AI) ship named 'Mayflower 400'.

About

- What it is? ➔ Mayflower 400 is an **unmanned** and **completely autonomous ship**.
- It is powered **by Artificial Intelligence** and the Sun's energy via solar panels.
- Purpose ➔ Main aim of this ship is to **study marine pollution** and **analyze plastics** in the water. It will also **track the aquatic animals**. The ship is set to sail on a transatlantic voyage.
- Key Features of the Ship ➔
    - The ship has been taught **how to avoid collisions**. Thus, the ship can **correct its course itself**.
    - The ship has been **trained with a hundred hours of audio data**. The training will help the ship to **detect** the **presence of marine animals**. Thereby, it will provide information about the population distribution of these animals in the ocean.
    - Furthermore, the ship is capable of **self-activating a hydrophone** that can **listen to whales**.
    - Also, the ship is equipped with **smart captain**. This AI tech along with **radars and cameras** will help the ship to learn during its course.
- Contributions ➔ Various nations such as **India**, **the United States**, and **Switzerland** have **contributed** a variety of technology to the project.
- Significance ➔ **80%** of the **underwater world remains unexplored**. Hence, the ship will help in exploring this unexplored area.

8. Nitrogen Dioxide

Why in News?

- According to a study, Long-term exposure to nitrogen dioxide (NO_2) pollution can affect lung function. Also, NO_2 can increase the risk of pulmonary disease.

About

- Nitrogen Dioxide (NO_2) belongs to one of the **highly reactive gases** known as **oxides of nitrogen** or **nitrogen oxides** (NOx).
- Other nitrogen oxides include **nitrous acid** and **nitric acid**.
- Source ➔ NO_2 is **formed when fossil fuels** like coal, oil, gas and diesel are **burned at high temperatures**.
- It is also formed during the **burning of wood and natural gases**.
- Effects ➔
    - **Irritates the human respiratory system** & reduces lung function.
    - Interacts in the atmosphere to **form acid rain**, which **harms sensitive ecosystems**.
    - Makes the **air hazy** and difficult to see though.
    - Contributes to **nutrient pollution in coastal waters**.
- The annual maximum NO_2 exposure recommended by the World Health Organization (WHO) is **21.3 parts per billion**.

9. Olive Ridley Turtles

Why in News?

- The annual mass nesting of millions of Olive Ridley sea turtles near the Rushikulya river mouth in Odisha is likely to be missed this year.

About

- The Olive ridley turtles are the **smallest and most abundant** of all sea turtles found in the world, **inhabiting warm waters of the Pacific**, **Atlantic** and **Indian oceans**.
- Features ➔ Males and female Olive Ridley Turtles **grow to the same size**. However, the **females** have a **slightly more rounded carapace**(shell) as compared to the male.
- Diet ➔ These turtles are **carnivores**. They feed mainly **on jellyfish**, **shrimp**, **snails**, **crabs**, **molluscs** and a **variety of fish and their eggs**.
- Arribada (Mass Nesting) ➔ They are best known for their **unique mass nesting** called **Arribada**. Under this, thousands of females come together on the same beach to lay eggs.
- Nesting Sites ➔ The **coast of Odisha** in India is the **largest mass nesting site** for the Olive-ridley. This is followed by the **coasts of Mexico** and **Costa Rica**.
- Conservation status ➔
    - IUCN Red List: **Vulnerable**
    - CITES: **Appendix** I
    - Indian Wildlife (Protection) Act, 1972: **Schedule** I

- Migration ➔ They spend their **entire lives in the ocean**. Further, they **migrate thousands of kilometres** between feeding and mating grounds in a year.
- Threats ➔ Olive-ridleys face **serious threats** across their **migratory route**, **habitat and nesting beaches**, due to human activities such as unfriendly turtle fishing practices, development, and exploitation of nesting beaches for ports, and tourist centers.

👉 Initiatives

- Indian Coast Guard undertakes "**Operation Olivia**" every year. It is an Olive Ridley Turtle protection program.
- To reduce the accidental killing in India, the Odisha government has made it mandatory for trawls to use **Turtle Excluder Devices**(TEDs). It is a **net specially designed with an exit cover** that allows the turtles to escape while retaining the catch.

10. Global Methane Assessment Report

Why in News?

- Recently, a report, titled Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions suggested that the world needs to dramatically cut methane emissions to avoid the worst of climate change.

About

- Released by ➔ the **Climate and Clean Air Coalition** and the United Nations Environment Programme (**UNEP**).
- Objective: The report has suggested that the world **needs** to **dramatically cut methane emissions** to avoid the worst of climate change.

👉 Key findings

- Human-caused methane emissions are **increasing faster currently than at any other time** since record keeping began in the 1980s.
- **Carbon dioxide levels** have **dropped** during the novel coronavirus disease (COVID-19) pandemic.
- This was a cause of concern as **methane was an extremely powerful greenhouse gas**. It was responsible for about **30% of global warming** since pre-industrial times.
- More than half of global methane emissions stem from human activities in three sectors: **fossil fuels (35%)**, **waste (20%)** and **agriculture(40%)**.

👉 Climate and Clean Air Coalition(CCAC)

- Climate and Clean Air Coalition is a **voluntary partnership** of governments, intergovernmental organizations, businesses, scientific institutions and civil society organizations.
- Aim: The coalition aims to **protect the climate and improve air quality** through actions to **reduce short-lived climate pollutants**.
- **India is a member** of the coalition.

👉 Short-lived Climate Pollutants?

- Short-lived climate pollutants are climate pollutants that **remain in the atmosphere** for a **much shorter period** of time than carbon dioxide (CO_2). Though short-lived they have the **potential to warm the atmosphere** many times greater than CO_2.
- Several short-lived climate pollutants like **black carbon**, **methane**, **tropospheric ozone,** and **hydrofluorocarbons**. These alone are responsible for up to 45% of current global warming.

👉 About Methane

- Methane (CH_4) is a **colourless**, **odourless**, and **highly flammable gas** composed of one carbon atom and four hydrogen atoms.
- Methane is found in **small quantities in Earth's atmosphere**. Methane is also a powerful greenhouse gas.
- Major **natural sources** of methane include emissions from wetlands and oceans, and from the digestive processes of termites.
- Methane **sources related to human activities** include rice production, landfills, raising cattle and other ruminant animals, and energy generation.

11. Nature in a Globalised World Report

Why in News?

- International Union for Conservation of Nature (IUCN) has released a report titled "Nature in a Globalised World: Conflict and Conservation".

About

- The report focuses on complex relationships between nature and armed conflict.
- Objective ➔ To bring nature conservation into the mainstream of economic and political decision-making.

👉 Key Findings

- **Armed Conflicts** have numerous **negative effects on nature**. These include:
  - Direct killing of wildlife for food or trade
  - Degradation of ecosystems as both a tactic and a consequence of war
  - Disruption of conservation, e.g. through attacks on protected area staff and other conservationists.
- Greater conflict risk: The report gave examples about the **impact on a range of species from conflicts**:
  - During the 1994 war in Rwanda, 90% of the large mammals in the Akagera National Park were killed for food or trade.
- Moreover, **civil unrest and military exercises** pose a risk to more than 200 Endangered species.

👉 International Union for Conservation of Nature(IUCN)

- Established in ➔ **1948**.
- IUCN is an international organization working in the **field of nature conservation** and **sustainable use of natural resources**.
- It is involved in **data gathering and analysis**, **research**, **field projects**, **advocacy**, and **education**.
- It has an **observer and consultative status** at the United Nations.
- Headquarters ➔ **Gland, Switzerland**.

- IUCN Red List ➔ It is best known for **compiling and publishing the IUCN Red List**, which assesses the conservation status of species worldwide.

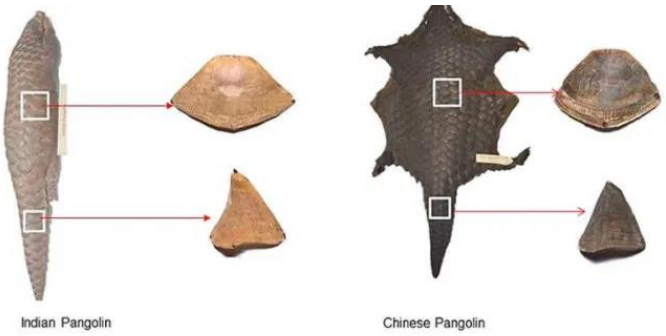
12. Indian pangolin and Chinese pangolin

Why in News?

- Researchers at the Zoological Survey of India (ZSI), Kolkata have developed tools to differentiate the scales of Indian pangolin (Manis crassicaudata) and Chinese pangolin (Manis pentadactyla).

About Pangolin

- Pangolins are **scaly anteater mammals** of the order Pholidota. They have **large**, **protective keratin scales** covering their skin. They are the only known mammals on earth to have this feature.
- Pangolins in India ➔ Out of the eight species of pangolin, the **Indian Pangolin** and the **Chinese Pangolin are found in India**.



👉 Indian Pangolin:

- Indian Pangolin is **widely distributed in India**, except in the arid region, high Himalayas and the North-East. The species also **occurs in Bangladesh**, **Pakistan**, **Nepal** and **Sri Lanka**.
- IUCN Status → **Endangered**
- Wildlife Protection Act,1972 → under **Schedule I**.

👉 Chinese Pangolin:

- It is widely distributed in **Vietnam**, **Thailand**, **Cambodia** and the **northeastern part of India**.
- IUCN Status → **Critically Endangered**
- Wildlife Protection Act,1972 → Under **Schedule I**.

👉 Difference between Indian and Chinese Pangolin:

- The **Chinese Pangolin has smaller scales** compared to the Indian pangolin.
- A terminal scale is present on the lower side of the tail in the Indian Pangolin. But the **terminal scale** is **absent in the Chinese Pangolin**.
- The **dry weight** of the scales from one **Chinese pangolin** is roughly about **500 to 700 grams**. However, in the case of **Indian pangolin**, it goes up from **1.5 kg to 1.8 kg**.

13. Shuvuuia Deserti

Why in News?

- Scientists on an examination of a ring of bones surrounding the pupil and a bony tube inside the skull that houses the hearing organ showed that this dinosaur, called Shuvuuia deserti, boasted visual and auditory capabilities akin to a barn owl.

About

- Shuvuuia was a **pheasant-sized**, **two-legged** **Cretaceous Period** dinosaur weighing about as much as a small house cat.
- **Lacking the strong jaws** and **sharp teeth** of many carnivorous dinosaurs, it had a remarkably bird-like and **lightly built skull** and **many tiny teeth**.
- It lived in **desert habitats** about **70 million years ago**, in what is today **Mongolia** and **northern China**.
- It employed excellent **night vision** and **superb hearing** to thrive as a menacing pint-sized nocturnal predator.
- Shuvuuia is **unique** among predatory dinosaurs with a **hyper-elongated lagena**, almost identical in relative size to a **barn owl's**.
- [The barn owl, a proficient nocturnal predator even in pitch-black conditions, has the proportionally longest lagena of any living bird.]
- Shuvuuia had a **very wide scleral ring**, indicating an **extra-large pupil size** that made its eye a specialized light-capture device.
- **Nocturnality** was **uncommon among dinosaurs**, aside from a group called **alvarezsaurs** to which Shuvuuia belonged.
- Alvarezsaurs had nocturnal vision very early in their lineage, but **super-hearing** took **more time to evolve**.

14. Beema Bamboo

Why in News?

- The Tamil Nadu Agricultural University (TNAU) has designed an 'oxygen park' within its premises at Coimbatore with Beema Bamboo.

About

- Beema or Bheema Bamboo is a **superior clone**, **selected from Bambusa balcooa**, a higher biomass yielding bamboo species.
- Developed by ➔ It has been developed by **N Bharathi of Growmore Biotech Ltd**, the agri-technology company based at Hosur, Tamil Nadu.
- The method used ➔ Beema Bamboo has been developed by the **conventional breeding method**. It is not a product of genetically modified organisms.
- Key Features ➔
    - This species is considered to be one of **the fastest-growing plants**. It grows one-and-a-half feet per day under tropical conditions.
    - It is said to be the best '**carbon sink**' to **mitigate carbon dioxide emissions**.
    - Permanent Green Cover: Beema Bamboo is **sterile**. This means it does **not produce any seed** and does **not die for several hundred years**.
    - Does not Require Replanting for Decades: It is **produced through tissue culture**. So, the culms (hollow stem of a grass or cereal plant, especially that bearing the flower) **grow almost solid** and **adapt to different soil and climatic conditions**.
        - Hence, after every harvest cycle, it **re-grows** and **does not require replanting** for decades.
    - Diverse Applications of Beema Bamboo: The Beema bamboo's **calorific value is equal to that of coal**. Hence, cement industries can buy this bamboo species for their boilers. Further, **Bamboo fibre** can also be **used by the textile industry** for **making fabric and garments**.

👉 Bambusa balcooa

- Bambusa balcooa is a **very large**, **thick-walled**, **clumping bamboo**, growing up to a height of 25 metres, and a thickness of 150 millimetres.
- The length and strength of Bambusa balcooa make it a **useful material for the construction industry**.
- It is a **drought-resistant species** with low rainfall requirements and can reach yields upwards of 100 metric tons per hectare.

15. Red-eared slider

Why in News?

- The invasive red-eared slider can become a major threat to the biodiversity of water bodies across the Northeast region of India.

About

- Scientific Name ➔ **Trachemys scripta elegans**.
- The red-eared slider is a **semi-aquatic turtle** belonging to the **family Emydidae**.
- Origin ➔ They are **native to the Southern United States** and **northern Mexico**. But they are found in other countries as well because they are famous as pets.
    - People keep the Red-Eared slider turtle **as pets**. They **release them in natural water bodies** after they outgrow an aquarium, tank, or pool at home.
- Name ➔ They get their **name from the small**, **red stripe around its ears** or where its ears would be and from its ability to slide quickly off rocks and logs into the water.
- Description ➔ The **females** of the species are **usually larger than the males**. They typically **live between 20 and 30 years**, although some individuals have lived for more than 40 years.
- Significance ➔ Red-eared sliders are poikilotherms. This means that they are **unable to regulate their body temperatures independently**. Hence, they are **completely** dependent on the temperature of their environment.
    - For this reason, they need **to sunbathe frequently to warm themselves** and maintain their body temperatures.
- Reason for Concerns ➔ Since it is an **invasive species** they **grow fast and virtually leave nothing** for the **native species to eat** and have a negative impact on the areas and the species living in the areas they invade.

👉 Invasive Species of India

- An invasive species is an organism that **causes ecological** or **economic harm in a new environment** where it is not native.
- There are many invasive species in India. For eg: **Charru Mussel**, **Lantana bushes**, **Indian Bullfrog**, etc.

16. Subdoluseps nilgiriensis

Why in News?

- Researchers have discovered an Asian gracile skink species from Western Ghats.

About

- Named **Subdoluseps nilgiriensis**, the reptile has a **slender body** of just about **7 cm** and is sandy brown in colour.
- The **unnoticeable limbs** of skinks make them resemble snakes.
- The new species is closely related to **Subdoluseps pruthi** found in parts of the Eastern Ghats.
- Protection Status ➔ Subdoluseps nilgiriensis is currently considered a **vulnerable species**.
- Significance of this discovery ➔ The new species was found in **a dry deciduous area**, showing that even the **dry zones of our country** are **home to unrealised skink diversity**. This species is only the **third skink species** discovered from mainland India in the last millennium.

👉 About Skinks

- Skinks are lizards belonging to the **family Scincidae**, a family in the **infraorder Scincomorpha**.
- Features ➔ Skinks are characterized by their **smaller legs** in **comparison to typical lizards**. They are mostly found in a **variety of habitats** except for arctic and subarctic regions.
- Behaviour ➔ Many species of skink does **digging and burrowing**. They also spend the majority of their time **underground**. As they can **stay safe from predators** and **the underground tunnels** also help them with easy navigation.
- Diet ➔ Skinks are generally **carnivorous** and in **particular insectivorous**. They are known to feed on insects such as termites, crickets and small spiders.
- Most skinks are **diurnal** and are **usually secretive in their habits**. So not much is known about their natural and evolutionary history.
- The skinks are also **non-venomous**. They **resemble snakes** because of the **inconspicuous limbs** and the way they **move on land**.
- Protection Status ➔ Most of the species are placed under the **data-deficient category**.

17. Common crane

Why in News?

- More than three centuries after it disappeared from Ireland, the common crane, a bird that is part of its folklore and was a popular pet during medieval times, has returned to the island nation.

About

- Cranes stand at **4 feet tall** with a wingspan of over 7 feet, and used to be the **largest birds in Ireland**.
- They are connected with the history and culture of the country, featuring in **folklore tales** and in the **names of towns**.
- Although they were **once common**, the destruction of their habitat saw them **disappear** around **the 16th and 17th century**.

👉 Bogs

- Bogs (also called quagmires) are **soft**, **spongy wetlands** that **accumulate peat**– a fossil fuel that is used for heating homes and businesses in northern Europe.

- Bogs also **act as carbon sinks**, sequestering around 200 million tons of carbon from the environment in Siberia and Scandinavia.
- Threats ➔ The **extraction of peat** or **for development activities**, the ecosystem **got destroyed** including damage to species such as cranes.
- Restoration ➔ **Rewetting** and **reintroducing bog plants**.

18. Elephant Seals

Why in News?

- Recently, Scientists have conducted research on the feeding behavior of northern elephant seals.

About

- Elephant seals get their name from the **prominent noses of the males** that resemble an elephant's trunk.
- Elephant seals are the **largest seals on earth**.
- IUCN Status ➔ **Least Concern** (for both species).
- Features ➔ **Male Elephant seals** grow to **over 13 feet long** and **weigh up to 4,500 pounds**. Females are slightly smaller, measuring up to 10 feet in length and weighing in at 1,500 pounds.
- Diet ➔ Elephant seals **eat rays**, **skates**, **fish**, **squid**, and **sharks** that live near the bottom of the ocean.
- Species ➔ There are two species of elephant seals:
- **Northern Elephant Seals**:
    - Northern elephant seals are found across the **Pacific coast of the United States**, **Canada** and **Mexico**.
    - They generally **breed and give birth in California** and **Baja California**. That too usually on offshore islands from December to March. They fast during mating season, losing perhaps a third of their body weight.
    - Life Span: 9 years.
- **Southern Elephant Seals**:
    - Southern elephant seals are the **largest of all seals**. They live in **sub-Antarctic and Antarctic waters** that feature brutally cold conditions.
    - But these regions are rich in the fish, squid, and other marine foods these seals enjoy.
    - Southern elephant seals **breed on land** but **spend their winters in the frigid Antarctic waters** near the Antarctic pack ice.
    - Life Span: 21 years old.
- Threats ➔ Entanglement in **marine debris**, **fishery interactions**, and **boat collisions**.

19. Snow leopard

Why in News?

- Recently, the World Wildlife Fund for Nature (WWF) released a report on Snow Leopards.

About

- It is a member of the genus '**Panthera**' to which tiger, leopard and lion also belong. Its Scientific name is "**Panthera uncia**".
- Habitat➔ **Cold High Mountains**.
    - These are found in 12 countries including **China**, **Bhutan**, **Nepal**, **India**, **Pakistan**, **Afghanistan**, **Russia** & **Mongolia**.
    - India: The states of **Jammu and Kashmir**, **Himachal Pradesh**, **Uttarakhand**, **Sikkim** and **Arunachal Pradesh** constitute snow leopard Habitat range in India.
- Features ➔
    - One of the **world's most elusive cats** & are perfectly equipped to thrive in **extreme**, **high-elevation habitats**.
    - Insulated with **thick white-grey coats spotted** with **large black rosettes & wide**, fur-covered feet act as natural snowshoes. The tail helps in balancing and also covers the body while sleeping.
    - Shy & rarely seen in the wild.
- Protection Status ➔
    - IUCN Red List: **Vulnerable**.
    - Wildlife Protection Act, 1972: **Schedule I**.
- Significance ➔ Snow leopard is the **State animal of Himachal Pradesh**.

👉 Snow Leopard Conservation

- Project Snow Leopard (PSL) ➔ It was launched by Govt of India in **2009** to promote an inclusive and participatory approach **to conserve snow leopards and their habitat**.
- Global Snow Leopard and Ecosystem Protection(GSLEP) ➔ It is a **joint initiative of range country governments**, international agencies, civil society, and the private sector. Its goal is to **secure the long-term survival** of the snow leopard in its natural ecosystem.
- HimalSanrakshak ➔ It is a **community volunteer programme** launched by the Government of India to protect Snow leopards.

👉 World Wide Fund (WWF)

- It is an **international non-governmental organization**. It is the world's largest conservation organization.
- Established in ➔ 1961.
- HQ ➔ **Gland, Switzerland**.
- Objectives ➔ **Conserving** the **world's biological diversity**.
    - Ensuring that the use of renewable natural resources is sustainable.
    - Promoting the reduction of pollution and wasteful consumption.
- Reports & Programmes ➔
    - Living Planet Report
    - Earth Hour
    - Debt-for-nature swaps.

20. Gholvad Sapota

Why in News?

- Recently, Dahanu Gholvad Sapota (chikoo) has been exported to the United Kingdom.

About Gholvad Sapota

- GI certification of Gholvad Sapota is held by **Maharashtra Rajya Chikoo Utpadak Sangh** and the fruit is known for its **sweet and unique taste**.
- It is believed that the **unique taste** is derived from **calcium-rich soil of Gholvad village**.
- Sapota is grown in many states ➔ **Karnataka**, **Gujarat**, **Maharashtra**, **Tamil Nadu**, **West Bengal** and **Andhra Pradesh**. **Karnataka** is known to be the highest grower of the fruit, followed by Maharashtra.

GI (Geographical Indication) Tag

- GI is a sign used on products that have a **specific geographical origin** and **possess qualities** or a **reputation** that are due to that origin.
- It is a **part of the intellectual property rights** that comes under the **Paris Convention** for the Protection of Industrial Property.
- In India, Geographical Indications registration is administered by the **Geographical Indications of Goods (Registration and Protection) Act of 1999**.
- Items Covered ➔ **Agricultural products**, **foodstuffs**, **wine and spirit drinks**, **handicrafts**, and **industrial products**.

Agricultural and Processed Food Products Export Development Authority (APEDA)

- It is an apex-Export Trade Promotion Active body, which works under the **Ministry of Commerce and Industry**.
- Founded in ➔ **1986**.
- Headquarters ➔ **New Delhi**.
- It **promotes exports** of agricultural & processed food items (including GI products) by providing assistance to the exporters.

21. Tlatolophus galorum

Why in News?

- A 72 million year old specimen of a dinosaur species called Tlatolophus galorum has been identified in Mexican state of Coahuila.

About

- The name Tlatolophus is derived from **tlahtolli**, meaning '**word**' in the indigenous Nahuatl language and **lophus**, meaning **crest in Greek**.
- This dinosaur species is believed to have been "**very communicative**" and **used low-frequency sounds** like elephants to talk to each other.
- These low-frequency sounds **travel several kilometres** and are **imperceptible to humans**.
- These "**peaceful**, **but talkative**" dinosaurs could also have had the ability to emit loud sounds to scare off predators.
- These dinosaurs, **like modern birds**, **saw in colour** and so these structures like the **crest** were **possibly brightly colored**.

22. New Big 5 project

Why in News?

- It has named the five animals for framing instead of firing at. These are the elephant, polar bear, gorilla, tiger and lion. All the New Big 5 animals are keystone species.

About

- What is it? ➔ It is an **international initiative** of more than 250 of the world's wildlife photographers, conservationists and wildlife charities.
- Created by ➔ British photographer **Graeme Green**.
- Aim ➔ Its aim is to **raise awareness** about the **crisis facing the world's wildlife from threats** including habitat loss, human-wildlife conflict, poaching, illegal wildlife trade and climate change.
- Since its launch in April 2020, the project to list the animals received **more than 50,000 votes from wildlife lovers**.

23. Sunderlal Bahuguna

Why in News?

- Well-known environmentalist and Gandhian Sunderlal Bahuguna passed away at the age of 94 due to COVID-related complications.

About Sunderlal Bahuguna

- Sunderlal Bahuguna (1927 – 2021) was an Indian noted **Garhwali environmentalist**. He was one of the **early environmentalists of India**.
- He was one of the **founders of the Chipko**, or **hug the tree movement**, in the **1970s** to save Himalayan forests from cutting down by forest contractors.
- He later spearheaded the **Anti-Tehri Dam movement** starting 1980s, to early 2004.
- He also **fought against untouchability** and later started organising hill women in his **anti-liquor drive** from 1965 to 1970.
- He adopted **Gandhian principles** in his life.
- In 2009, he was awarded **Padma Vibhushan Award** by government of India for environment conservation.

👉 Chipko Movement

- It was a **non-violent agitation** which originated in **Uttar Pradesh's Chamoli district** (now Uttarakhand) in **1973**.
- The name of the movement 'chipko' comes from the word **'embrace'**, as the **villagers hugged the trees** and **encircled them** to **prevent being hacked**.
- It is best remembered for the **collective mobilisation of women** for the cause of preserving forests, which also brought about a **change in attitude regarding their own status in society**.
- It's biggest victory was making people **aware of their rights to forests**, and how grassroots activism can influence policy-making regarding ecology and shared natural resources.

- It led to a **ban on commercial felling of trees** above **30 degrees slope** and above 1,000 msl (mean sea level) in 1981.

Major Environmental Movements in India

Name	Year	Place	Leaders	Details
Bishnoi Movement	1700	Khejarli, Marwar region, in Rajasthan	Amrita Devi	
Chipko Movement	1973	Uttarakhand	Sunderlal Bahuguna Chandi Prasad Bhatt	Used to hug trees to stop their felling The main objective was to protect the trees on the Himalayan slopes from the axes of contractors of the forest.
Silent River Valley Project	1978	Kantipuza river in Kerala	Kerala Sastra Sahitya Parishad Sughathakumari	To protect the Silent Valley, the moist evergreen forest from being destroyed by a hydroelectric project. In November 1983 the Silent Valley Hydroelectric Project was called off. In 1985, Prime Minister Rajiv Gandhi formally inaugurated the Silent Valley National Park.
Jangal Bachao Aandolan	1982	Singbhum district of Bihar	Tribals of Singhbum	Against governments decision to replace the natural sal forest with Teak.
Appiko Movement	1983	Karnataka	Lakshmi Narasimha Yuvak Mandali Pandering Hegde.	To stop felling of natural trees. Against commercial forestry of teak and eucalyptus trees
Tehri dam	1980s to 1990s	Bhagirathi and Bhilangama rivers at Tehri in Uttaranchal	Tehri Badh Virodhi Sangarshan Committee Sunderlal Bahuguna and Veera Dutt Saklani	
Narmada Bachao Aandolan	1980s to present	Gujarat Madhya Pradesh and Maharastra Total 33 dams Two main are Sardar Sarovar Dam and the Indira Sagar Project	Medha Patkar Arundhati Roy Sundarlal Bahuguna Baba Amte Arundhati Roy	

24. International Day for Biological Diversity

Why in News?

- International Biodiversity Day was observed on May 22, 2021.

About

- The International Day for Biological Diversity or World Biodiversity Day is a United Nations-sanctioned **international day for the promotion of biodiversity issues**.
- The Secretariat of the Convention on Biological Diversity(**CBD**) **announces the theme each year**.
- The theme for 2021 is "**We're part of the solution**."

About Convention on Biological Diversity (CBD)

- The Convention was **signed at the 1992 Rio Earth Summit**. It is a **legally binding treaty** dedicated to promoting sustainable development.
- Parties ➔ There are **196 parties** to the convention. Nearly all countries have ratified it (notably, the US has signed but not ratified).
- Objectives ➔
    - conservation of biological diversity,
    - sustainable use of the components of biological diversity
    - fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

- Secretariat ➔ The CBD Secretariat is based in **Montreal, Canada**, and it operates under the United Nations Environment Programme.
- COP ➔ The Parties (Countries) under the Convention of Biodiversity (CBD) **meet at regular intervals** and **these meetings** are called **Conference of Parties** (COP).

Convention Protocols and other Initiatives:

- **Cartagena Protocol on Biosafety** ➔ It was adopted in **2000** and entered into **force in 2003**. It aims to ensure the **safe handling**, **transport**, and **use of living modified organisms(LMOs)** resulting from modern biotechnology that may have adverse effects on biological diversity.
- **Nagoya Protocol** ➔ It was adopted in **2010 in Nagoya**, **Japan** at COP10. It entered into **force in 2014**. It aims at **sharing the benefits arising from the utilization of genetic resources** in a fair and equitable way.
- **Aichi Biodiversity Targets** ➔ These were included in the **Strategic Plan for Biodiversity** for the **2011-2020** period adopted by the 10th meeting of the Conference of the Parties of the Convention on Biological Diversity. There are **20 Aichi Targets** classified under 5 Strategic Goals.

25. Protected Planet Report 2020

Why in News?

- The report, titled Protected Planet Report 2020, underlined the progress the world has made toward the ambitious goals agreed by countries in 2010 at the United Nations Convention on Biological Diversity.

About

- Released by ➔ United Nations Environment Programme (**UNEP**) and the International Union for the Conservation of Nature (**IUCN**).
- Purpose ➔ The report takes **stock of measures taken to fulfill the aims of Aichi Target 11**. Aichi Target 11 called for protecting 17% of Earth's land and 10% of its marine environments by 2020.
- Further, the report also lays the groundwork for a **new framework aimed at protecting nature**. It will be **decided upon at the UN Biodiversity Conference**, scheduled for October 2021 in Kunming, China.
- Moreover, the report is the first to include data on **other effective area-based conservation measures**(OECM) taken outside protected areas. OECM conservation designation is given to the areas for **achieving effective in-situ biodiversity conservation outside protected areas**.

Protected Areas

- Protected Areas are clearly defined **geographical space**. These are **recognised**, **dedicated**, and **managed through legal** or **other effective means** to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

Key Findings

- Increase in Protected Areas and OECM ➔ As many as **82% of countries and territories** register an **increase in the share** of protected areas and OECM since 2010.
- Since 2010, protected areas covering almost a **million square kilometers** have been **added to the global network**. This area is greater than the land area of the Russian Federation.

- Over the 10-year period, the **greatest growth in protected areas** and **OECMs** has been in marine and coastal areas. Around 68% of the current network's area is less than 10 years old.
- Around **62.6%** of **key biodiversity areas** (KBA) either **fully** or **partially overlap with protected areas and OECMs**.

26. National Award for Recycling Carbon Technology

Why in News?

- A Bangalore based startup has received the National Award 2021 from Technology Development Board (TDB) for developing a commercial solution for conversion of carbon dioxide (CO_2) to chemicals and fuels.

About

- The startup developed **efficient catalysts and methodologies** for the conversion of carbon dioxide (CO_2) to methanol and other chemicals.
- It has led to **improvisation of process engineering** to **enhance the production of chemicals and fuels** from anthropogenic CO_2 generated from various sources including coal and natural gas power generation sectors, steel industry, cement industry, and chemical industries.
- It has **integrated multiple components** involved in the **CCUS** (Carbon Capture, Utilization, and Sequestration) to develop a complete solution for the environmental issues due to global warming.
- The **Recycling Carbon Technology** will be **transferred to** Jawaharlal Nehru Centre for Advanced Scientific Research (**JNCASR**), an autonomous institute of the Department of Science and Technology.

👉 Carbon Capture, Utilization and Sequestration (CCUS):

- It is a **process** that **captures carbon dioxide emissions from sources** like coal-fired power plants and **either reuses** or **stores it** so it will not enter the atmosphere.
- Carbon dioxide storage in geologic formations includes **oil and gas reservoirs**, **unmineable coal seams** and **deep saline reservoirs** - structures that have stored crude oil, natural gas, brine and carbon dioxide over millions of years.

👉 Technology Development Board

- It is a **statutory body** established by an act of Parliament, Technology Development Board Act, 1995.
- Established in ➔ **1995**.
- Headquarters ➔ **New Delhi**
- Objective ➔ To **promote development and commercialization of indigenous technology** and adaptation of imported technology for much wider application.
- Composition ➔ **11 Board members**.

27. High Mercury level Found in Rivers

Why in News?

- According to a study published in Nature Geoscience, Greenland's glacial meltwaters have unusually high levels of mercury.

About Mercury

- Sources ➔
  - Mercury is a **naturally occurring element** that is found in air, water and soil. Released into the atmosphere through natural processes such as weathering of rocks, volcanic eruptions, geothermal activities, forest fires, etc.
  - Mercury is **also released through human activities**.
- Health Impact ➔ Mercury may have **toxic effects on the nervous**, **digestive** and **immune systems**, and **on lungs**, **kidneys**, **skin** and **eyes**.
- Chemical of major public health concern ➔ Mercury is considered by the World Health Organisation (WHO) as one of the **top ten chemicals** or **groups of chemicals** of **major public health concern**.
- Minamata Disease ➔ A disorder caused by **methylmercury poisoning** that was **first described** in the **inhabitants** of **Minamata Bay**, **Japan** and resulted from their eating fish contaminated with mercury industrial waste.

About the Minamata Convention

- It is a **UN treaty**.
- The Minamata Convention on Mercury is a **global treaty to protect human health and the environment** from the adverse effects of mercury and its compounds.
- It was agreed at the **fifth session** of the **Intergovernmental Negotiating Committee** in **Geneva, Switzerland 2013**. It entered into force in 2017.
- **Controlling the anthropogenic releases** of mercury throughout its lifecycle is one of the key obligations under the Convention.
- The Convention also **addresses interim storage of mercury** and **its disposal** once it becomes waste, sites contaminated by mercury as well as health issues. India has **ratified the Convention**.

28. Bhitarkanika National Park

Why in News?

- Cyclone Yaas fells hundreds of trees in Bhitarkanika, hit on fauna being assessed.

About

- Bhitarkanika National Park is a national park located in **Kendrapara district of Odisha** in eastern India.
- It is famous for its **mangroves**, **migratory birds**, **turtles**, **estuarine crocodiles**, and **countless creeks**.
- It is India's **second-largest mangrove forest**.
- The Bhitarkanika is represented by **3 Protected Areas**, the Bhitarkanika National Park, the Bhitarkanika Wildlife Sanctuary and the Gahirmatha Marine Sanctuary.
- Bhitarkanika is located in the **estuary of Brahmani**, **Baitarani**, **Dhamra**, and **Mahanadi river systems**.
- It is said to house **70% of the country's estuarine** or **saltwater crocodiles**, conservation of which was started way back in 1975.
- Bhitarkanika is home to a **wide range of fauna**, including 3,000 spotted deer, bird species and other species such as wild boars, jackal, hyenas, jungle cat, fishing cats, water monitor lizards, rhesus macaques, common languor, Indian civet cat and hare.
- The area was designated a **national park in September 1998** and as a **Ramsar site by UNESCO** in **August 2002**.

Cyclone Yaas

- Cyclone Yaas is a **Tropical Cyclone**. It has been **named by Oman**. Yaas means a **tree bearing fragrant flowers**.
- Cyclone Yaas is the first cyclonic storm to **develop over the Bay of Bengal in 2021**.
- Cyclone Yaas crossed the **northern Odisha coast** around 20 km south of Balasore at its peak intensity as a **very severe cyclonic storm**.

29. Blackbucks

Why in News?

- Odisha's blackbuck population has doubled in the last six years, according to figures from the latest population census released recently by the chief conservator of forest (wildlife).

About

- Scientific name ➔ **Antelope cervicapra**.
- The Blackbuck or the **Indian Antelope**, is a species of antelope native to India and Nepal.
- It is widespread in **Rajasthan**, **Gujarat**, **Madhya Pradesh**, **Tamil Nadu**, **Odisha**, and other areas throughout peninsular India.
- It is considered as the **epitome of grassland**.
- It is considered to be the **fastest animal** in the world **next to Cheetah**.
- The blackbuck is a **diurnal antelope** (active mainly during the day).
- **Bishnoi community of Rajasthan** is known worldwide for their conservation efforts to blackbuck and Chinkara.
- State animal of **Andhra Pradesh**, **Haryana** & **Punjab**.
- Cultural Importance ➔ It is a **symbol of purity for Hinduism** as its skin and horns are regarded as a sacred object. For **Buddhism**, it is a **symbol of good luck**.
- Protection Status ➔
    - Wildlife Protection Act 1972: **Schedule I**
    - IUCN Status: **Least Concern**
    - CITES: **Appendix III**
- Protected Areas ➔
    - Velavadar Blackbuck Sanctuary - Gujarat.
    - Point Calimere Wildlife Sanctuary - Tamil Nadu.
    - Nilgiri biosphere reserve.
    - Corbett national park.
- Threats ➔ **Habitat Fragmentation**, **Deforestation**, **Natural Calamities**, **Illegal Hunting**.

Blackbuck in Odisha:

- The blackbuck is known in Odisha as **Krushnasara Mruga**.
- Blackbucks are **confined** to Balukhand-Konark coastal plain / wildlife sanctuary in Puri District; Balipadar-Bhetnoi and adjacent areas in Ganjam District.
- As per the latest census, the antelopes **numbered 7,358, compared to 2,194 in 2011**.

- Improvement of habitats, **protection given by the local people** and **forest staff** were some of the reasons for the increase of the population.

30. Eurasian Griffon Vulture

Why in News?

- Recently, a Eurasian Griffon Vulture was spotted in Satara district's Koyna Wildlife Sanctuary in the Sahyadri Tiger Reserve.

About

- It is a **massive tricolored vulture** with whitish head and neck, pale brown body, and contrasting dark flight feathers.
- Native Areas ➔ **Tibet**, **Kazakhstan**, **Kyrgyzstan**, **Uzbekistan**, **Tajikistan**, **Afghanistan**, **Pakistan**, **Bhutan**, **Nepal**, **Mongolia**, and **West China**.
- In India, it can be mostly found in the **Himalayas** and **the northern plains**.
- Conservation Status ➔ **Least Concern** (IUCN).
- Food ➔ **Softer parts of carcasses**, such as the **muscles** and **viscera**.
    - It is known for **traveling long distances** in search of food.

Sahyadri Tiger Reserve

- It is located in the **Sahyadri Ranges** of the Western Ghats of Maharashtra.
    - Sahyadri Range forms a common boundary between Maharashtra, Karnataka, and Goa.
- The tiger reserve consists of **Chandoli National Park** and **Koyna Wildlife Sanctuary**.
- Consists of **evergreen**, **semi-evergreen** and **moist deciduous forests**.
- It is the only tiger reserve of **western Maharashtra** and **4th tiger reserve** of Maharashtra.
- Declared as tiger reserve in **2008**.
- The central portion of Sahyadri Tiger Reserve is occupied by **Shivsagar reservoir of Koyana River** and **Vasant Sagar reservoir of Warana River**.

31. Jayanti

Why in News?

- Jayanti has become the twelfth subgenus, or species, of cricket identified under the genus Arachnomimus Saussure, 1897.

About

- It was found in the **Kurra caves of Chhattisgarh** in **April 2021** by a team of zoologists.
- It was named Jayanti after **Professor Jayant Biswas**, one of the leading cave explorers in the country, who assisted the team.
- Jayanti has led to the **new subgenus 'Indimimus'**.
- Interestingly, **males** of the new Jayanti subgenus **cannot produce sound** and their **females don't have ears**.

About the New Subgenus:

- The newly discovered subgenus, **Indimimus**, is different from the two subgenera, Arachnomimus and Euarachnomimus, because of the **male genitalia structure**.
- Insects have a **lock-and-key model genitalia structure** which is **unique to each subgenus**.

Arachnomimus Saussure, 1897:

- Arachnomimus is the genus name given by **Swiss Entomologist Henri Louis Frédéric de Saussure** in **1878** to crickets that resembled spiders.
- Crickets of this group are commonly called **spider crickets** because of their **smaller body size and long legs**.
- Significance of the Discovery ➔ It can help in **designing hearing aids for humans**.

32. New Emission Norms for Coal-Fired power Plants

Why in News?

- The Ministry of Environment, Forests, and Climate Change (MoEFCC) had pushed the deadline for thermal power plant (TPP) by upto three years for complying emission norms in the country.

About Background

- In 2015, MoEFCC notified **environmental norms for particulate matter**, **sulphur oxides**, **nitrogen oxides** and **mercury** and water use for coal based TPPs.
- Initially, India had set a **2017 deadline** for thermal power plants to install flue gas desulphurisation units that cut emissions of sulphur dioxides. But this was postponed to varying deadlines for different regions, ending in 2022.
- The deadline was **pushed to December 2022** for all power stations in the country in view of implementation issues and challenges.

Key Highlights of new guidelines

- Creation of task force ➔ A **task force** will be **constituted by the Central Pollution Control Board** (CPCB) to **categorise thermal power plants** (TPPs) in three categories on the basis of their location to comply with the emission norms within the different time limit.
    - Category A: TPP within 10 kilometres of the National Capital Region (NCR) and in cities with more than 10 lakh population to comply with new emission norms by the end of 2022.
    - Category B: In non-attainment cities (those cities which are not meeting National Ambient Air Quality Standards) and those within 10 kilometres of critically polluted areas have to meet the norms by December 31, 2023.
    - Category C: Coal-fired power plants in the rest of the areas have to comply with the new standards by December 31, 2024.
- Exemption on ground of retirement ➔ TPPs declared to **retire before December 31, 2025 are not required to meet the specified norms** in case such plants submit an undertaking to the CPCB and the CEA (Central Electricity Authority) for exemption on ground of retirement.
- Penalty provisions ➔ In **case of non-compliance**, a penalty of **up to 0.20 rupees per unit** will be levied for electricity generated for continuing the operations beyond the deadlines.

Flue Gas Desulphurisation (FGD)

- It is a **set of technology** used to **remove sulfur dioxide (SO2) from exhaust flue gases** generated in furnaces, boilers, and other processes due to thermal processing, treatment, and combustion.
- It involves wet **scrubbing** or **dry scrubbing**. Wet scrubbing is most common.
- It is **highly reliable**, and **energy** and **utility savings**.

Central Pollution Control Board (CPCB)

- It is a **statutory organisation** which was constituted in 1974 under the Water (Prevention and Control of Pollution) Act, 1974.
- It was entrusted with the powers and functions under the **Air (Prevention and Control of Pollution) Act, 1981**.
- It **serves as a field formation** and also **provides technical services** to the Ministry of Environment and Forests of the provisions of the Environment (Protection) Act, 1986.

Science and Technology

1. NEO-01

Why in News?

- The Chinese government has launched a robot prototype named 'NEO-01' in the Low Earth Orbit through its Long March 6 rocket.

About

- What is it? ➔ NEO-01 is a **robot prototype** developed by China-based space mining start-up '**Origin Space**'.
- Aim ➔ The aim is to **observe small celestial bodies** in deep space and to experiment with a novel approach to **clearing up space debris**.
- Method to remove space debris ➔ NEO-01 will use a **large net to capture debris** left behind by other spacecraft. After collection, it **will burn them** using its **electric propulsion system**.
- Electric Propulsion(EP) is a **class of space propulsion**. This propulsion will make use of electrical power to accelerate a propellant. These technologies generate **electrical energy** either **from a solar source** or **from a nuclear source**.

What is Space Debris?

- Firstly, space debris is **any piece of machinery** or **debris left by humans** in space.
- Secondly, it can refer to big objects such as **dead satellites** that have **failed** or **been left in orbit at the end of their mission**. It can also refer to smaller things, like bits of debris or paint flecks that have fallen off from a rocket.
- Thirdly, space debris is a **threat to active satellites** and **spaceships** as they pose the risk of collisions.

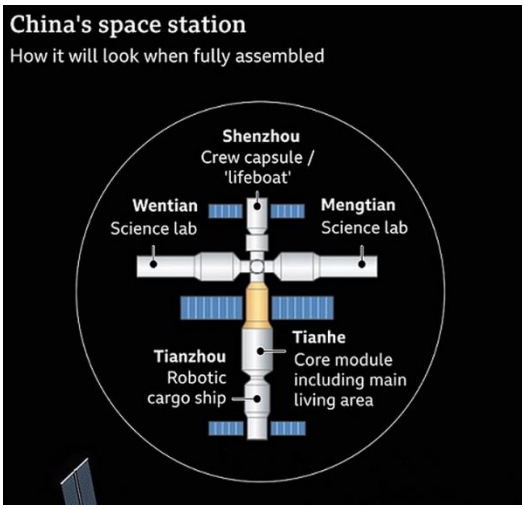
2. Tianhe module

Why in News?

- China launched the core module of its space station, kicking off a series of key launch missions that aim to complete the construction of the station by the end of next year.

About

- The **Long March-5B Y2 rocket**, carrying the Tianhe module, blasted off from the **Wenchang Spacecraft Launch Site**.
- The Tianhe module will **act as the management** and **control hub** of the space station Tiangong, meaning **Heavenly Palace**, with a node that could dock with up to three spacecraft at a time for short stays, or two for long
- Tianhe is the **largest spacecraft** developed by China.
- The space station will be a **T shape** with the core module at the centre and a lab capsule on each side.



- The station will **operate in the low-Earth orbit** at an altitude from **340 km to 450 km**.
- It has a designed **lifespan of 10 years**, but experts believe it could last more than 15 years with appropriate maintenance and repairs.

Also Remember

- The Chinese space station is expected to be a **competitor to** the **aging International Space Station** (ISS) which is a modular space station in low Earth orbit.
- ISS is a multinational collaborative project involving five participating space agencies which included **NASA**, (US), **Roscomos** (Russia), **JAXA** (Japan), **ESA** (Europe), and **CSA** (Canada).

3. Pink Moon 2021

Why in News?

- People around the world on 26th April 2021 witnessed the first Supermoon or Pink Moon.

About

- The **Astrologer Richard Nolle** in **1979** **coined the term** Supermoon .
- The supermoon is a **full moon** or a **new moon** that nearly **coincides with a perigee** (A point of the Moon's orbit closest to Earth).
- The supermoon makes the moon **appear a little bigger** and **looks brighter** than usual. However, to our own eyes, the differences are **indistinguishable**.
- **Why call it 'Pink Moon'?**
    - The moon will **not be originally pink**. It got its name from the **pink wildflowers** (Wild Ground Phlox). These **flowers bloom** in the spring and are native to North America.
    - Further, there are many other names for this moon. Such as **Sprouting Grass Moon**, **the Egg Moon**, **the Paschal moon**, and **the Fish Moon**.

Other definitions:

- **Blue Moon**
    - When **two full moons** appear in the **same calendar month**, the **second** is **termed** a "blue moon".
- **Blood Moon**
    - The meaning of a "blood moon" is based on its **red glow of the moon**. The blood moon occurs **during a total lunar eclipse**.
    - During a **total lunar eclipse**, **Earth lines up between the Moon and the Sun**. This **hides the Moon** from the sunlight.
    - When this happens, the only light that **reaches the Moon's surface** is **from the edges of the Earth's atmosphere**.
    - The **air molecules** from Earth's atmosphere **scatter out most of the blue light**. The remaining light reflects onto the Moon's surface with a red glow making the Moon appear red in the night sky.
    - Note: The name "**blood moon**" is also sometimes used for a Moon that **appears reddish** because of **dust**, **smoke** or **haze in the sky**.

4. SUTRA model

Why in News?

- Scientists working on the SUTRA model have rejected media reports claiming that they had cautioned the Government regarding the second wave of the corona pandemic in March this year.

About

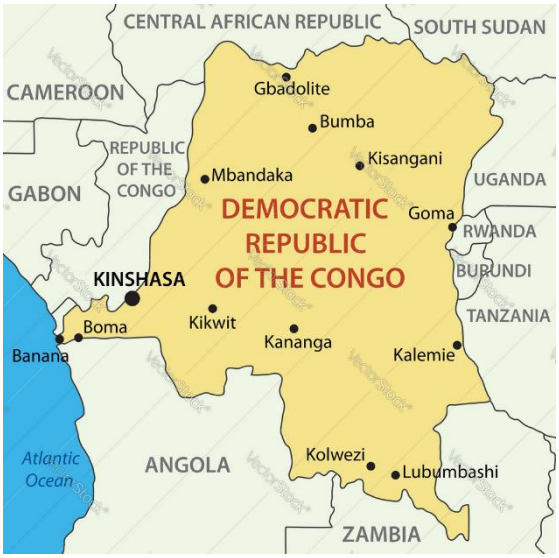
- History ➔ It was first **released in 1984**.
- It is a three-dimensional groundwater model that **simulates solute transport** (i.e. salt water) or **temperature** in a **subsurface environment**.
- It is a model for **saturated-unsaturated**, **variable-density ground-water flow** with solute or energy transport.
- The SUTRA (Saturated-Unsaturated Transport) is a **computer program** that **simulates fluid movement** and the **transport of either energy** or **dissolved substances** in a subsurface environment.
- It employs a **weight grid** that is based on a finite element and integrated finite difference hybrid method framework.
- It has been used to **simulate the effects of saltwater intrusion**, **contaminant transport**, and **thermal pollution**.

5. Ebola virus disease

Why in News?

- The Democratic Republic of the Congo (DRC) has officially declared the end of the 12th Ebola outbreak.

About



- What is it? ➔ Ebola virus disease(EVD) formerly known as **Ebola haemorrhagic fever** is a severe often fatal illness in humans.
- Origin ➔ Ebola virus was **first discovered in 1976** near the **Ebola River** in what is now the Democratic Republic of Congo.
- Transmission ➔ It is **transmitted to people from wild animals** and then spreads in the human population through **human-to-human transmission**.
- Symptoms ➔ **Sudden fever**, **intense weakness**, **muscle pain** and a **sore throat**. It progresses to vomiting, diarrhoea and both internal and external bleeding.
- Prevention ➔ **Community engagement** is **key** to successfully controlling outbreaks. Good outbreak control relies on **case management**, **surveillance** and **contact tracing**, a good laboratory service and social mobilisation.
- Treatment ➔ There is **no proven treatment** for Ebola but interventions early on includes **rehydration with fluids** and **body salts** and **treatment of specific symptoms** such as low blood pressure, vomiting, diarrhea and infections.

- Vaccine ➔ An investigational vaccine called **rVSV-ZEBOV** has shown to be safe and protective against the Ebola virus.
- The average EVD case **fatality rate** is **around 50%**. Case fatality rates have varied **from 25% to 90%** in past outbreaks.

6. Pox 186 galaxy

Why in News?

- Astrophysicists using the Gemini telescope have spotted the first 'blow-away' galaxy, in which the hydrogen clouds have been stripped off exposing high-energy light.

About

- This finding could give a clue to **solving the puzzle** of the **reionisation of the universe**.
- The galaxy, named **Pox 186**, is **so small** that it could **fit inside the Milky Way**.
- The researchers suspect that its **compact size**, **coupled with its large population of stars** -- which amount to a hundred thousand times the mass of the sun -- made the blow-away possible.

👉 Gemini Observatory

- The Gemini Observatory is an **astronomical observatory** consisting of two 8.1-metre telescopes, **Gemini North** and **Gemini South**, which are located at **two separate sites** in **Hawaii and Chile**, respectively.
- The twin Gemini telescopes provide almost **complete coverage** of both the northern and southern skies
- They are currently among the **largest** and **most advanced optical/infrared telescopes** available to astronomers.

7. R21/Matrix M

Why in News?

- A malaria vaccine candidate has shown promise in phase 2b clinical trials, with high efficacy at 77%. The results of the trial were published recently in preprints with The Lancet.

About Background

- The previous version '**RTS-S**' is a **vaccine candidate against malaria** that has been in development for **more than 30 years**.
- It is being developed by **Walter Reed Institute of Research**, **GlaxoSmithKline** and **Bill and Melinda Gates Foundation** with the PATH Malaria Vaccine Initiative.
- It is designed to **stop** the **Plasmodium falciparum malaria parasite** from entering the liver and preventing the subsequent deadly blood stages.
- It **targets** the **liver stage protein** of the Plasmodium falciparum life cycle.
- The RTS-S is the first, and to date the only, vaccine to **reduce malaria in children**.

👉 The new version

- The new vaccine candidate, called **R21/Matrix M**, is a **modified version of RTS-S**.

- It has been **developed by** scientists at **University of Oxford**, the same location where the AstraZeneca Covid-19 vaccine was developed.
- It was the first to reach WHO's goal of **at least 75% efficacy**.

8. Positron Excess Phenomenon

Why in News?

- Researchers from the Raman Research Institute (RRI), Bengaluru, have resolved the mystery of the antimatter counterpart of the electrons called Positron and Positron Excess Phenomenon.

About

- What is it? ➔ Antimatter is the **opposite of normal matter**. More specifically, the sub-atomic particles of antimatter have properties opposite those of normal matter.
- For example, the **electrical charge of antimatter particles** is **reversed**.
- Antimatter was **created along with matter after the Big Bang**. But in today's universe, antimatter is rare.
- For example, **Positron**.

👉 Positron or anti-electron

- A Positron is an **antimatter counterpart** to **an electron**.
- A positron has the **equal** or **same mass as an electron**.
- But the electron has a **Negative Electric Charge** whereas **Positron** has a **Positive electric Charge**.

Positron Excess

- Over the years scientists observed **excess of positron** having the **energy of more than 10 GeV**.
- But **Positrons** having an **energy of more than 300 GeV** are lower in comparison to astronomers' expectations.
- This behavior of positrons **between 10 and 300 GeV** is called as the '**positron excess**'.

Reason for Positron Excess:

- The Milky Way consists of **giant clouds of molecular hydrogen**. They are the seats of the **formation of new stars**. These clouds can be as **massive as 10 million times** of the Sun's mass. Further, these clouds can extend up to 600 light-years.
- The Milky Way is a **huge collection of stars**, **dust**, and **gas**. It is called a **spiral galaxy** because if viewed from the top or bottom, it will look like a **spinning pinwheel**.
- **Cosmic rays** are **produced in supernovae explosions**. These waves propagate through these giant clouds before they reach the Earth.
- Cosmic rays **interact with molecular hydrogen** and can give **rise to other cosmic rays** primarily electrons and positrons.
- Further, **cosmic rays propagate** through these clouds and decay from their original forms and lose their wave energy by energising the clouds. Some may also **get re-energised**.
- Researchers from the Raman Research Institute(**RRI**) found out that Cosmic rays interaction with giant clouds is a **viable contributor** to the **origin of positron excess phenomenon**.

👉 Cosmic Rays

- Cosmic rays are one of the **very few direct samples** of **matter from outside the solar system**. They are **high energy particles** that move through space at nearly the speed of light.
- They **originate from the sun**, from outside the solar system in our own galaxy, and from distant galaxies.
- Furthermore, they have been **blamed for electronics problems in satellites** and **other machinery**.

9. Crew-2 mission

Why in News?

- Four astronauts were launched to the International Space Station (ISS) from Florida as part of a collaboration between NASA and SpaceX under the Commercial Crew Program. The mission is called Crew-2 Mission.

About Commercial Crew Program (CCP)

- CCP is a **partnership between NASA and private industry**. Its aim is to **carry astronauts** to and from the International Space Station.
- Objective ➔ The program aims to **help lower the cost of spaceflight** and potentially **create a new commercial market** for humans in space.
- Business Partners ➔ Two companies are partnering with NASA on the Commercial Crew Program: **Boeing** and **SpaceX**.
- How is this program different? ➔ Unlike previous human spaceflight programs, NASA is a **customer buying flights from commercial providers**. The agency does **not own** or **operate the spacecraft**.
- Significance ➔ By **encouraging private companies** to provide **crew transportation services** to and from low-Earth orbit, NASA can focus on building spacecraft and rockets meant for deep space exploration missions.

👉 NASA's Partnership with SpaceX:

- In **May 2020**, NASA's SpaceX **Demo-2 test flight** lifted off for the ISS **carrying two astronauts**.
    - The aim of this **test flight** was to see if **SpaceX capsules** could be **used on a regular basis** to ferry astronauts to and from the ISS.
- Demo-2 was followed by the **Crew-1 mission in November**, which was the **first of six crewed missions** between NASA and SpaceX marking the beginning of a new era for space travel.
- Crew-1 was the **first operational flight** of the SpaceX Crew Dragon spacecraft on a Falcon 9 rocket to the ISS.
- Crew-1 team members joined members of **Expedition 64** and conducted **microgravity studies at the ISS**.

👉 Crew-2 Mission:

- Crew-2 Mission is the **second crew rotation** of the **SpaceX Crew Dragon** and the first with international partners.
- The mission carried **four astronauts to ISS**. Among them, two are from NASA and two are from the Japan Aerospace Exploration Agency (**JAXA**) and the European Space Agency(**ESA**).
- The central focus of the mission will be to **continue research on a series of Tissue Chips** in Space studies.

👉 Tissue Chips:

- Tissue Chips are **small models of human organs** that **contain multiple cell types** that behave similarly to the human body organs.

- According to NASA, these chips can **potentially speed up** the **process of identifying safe** and **effective drugs and vaccines**.
- Scientists can use these tissue chips in space to **study diseases** that affect specific human organs, which would take months or years to develop on Earth.

10. Black Fungus Infection

Why in News?

- Delhi hospital reports rising no. of COVID-induced 'black fungus' cases.

About

- What it is? ➔ Black Fungus infection is also known as **Mucormycosis** (previously called zygomycosis). It is a **serious** but **rare fungal infection**.
- Caused by ➔ a **group of molds** called mucormycetes. These molds are **present naturally** in the environment.
- Mucormycosis **mainly affects people who have health problems** or **take medicines** that lower the body's ability to fight germs and sickness.
- Symptoms ➔ Symptoms of the disease are **face numbness**, **nose obstructions on one side**, **swelling in the eyes**, or pain.
- Transmission ➔ The infection can occur in **almost any part** of the body. However, the infection is not contagious. This means that it **cannot transmit between people** or between people and animals.
- Treatment ➔ Treatment of this infection is possible with prescription **antifungal medicine**. If not detected early, the **infection can be fatal**. It can also lead to **loss of vision** or **jaw in others**.
- Note ➔ **Use of steroids** in the treatment of **Covid infection plus diabetes** as co-morbidity could be the **reason for a rise** in the number of black fungus infections again.

11. Latest findings about Venus

Why in News?

- Scientists have obtained new data about Venus by bouncing radio waves off Venus.

About Latest findings

- The study measured the **tilt of the Venusian axis** and **size of the planet's core**.
- A single Venusian rotation **takes 243.0226 Earth days**. That means a day lasts longer than a year on Venus, which makes a complete orbit around the sun in **225 Earth days**.
- The Venusian planetary core has a **diameter of about 4,360 miles** (7,000 km), comparable to Earth's core.
- The study calculated the **Venusian tilt** at about **2.64 degrees**. Earth's is about 23.5 degrees.
- The researchers **transmitted radio waves** toward Venus **21 times** from 2006 to 2020 **from NASA's Goldstone Antenna in the Mojave Desert of California** and studied the radio echo, which provided information on certain planetary traits.

👉 Venus

- Venus is **Earth's closest planetary neighbour**. It is also known as **earth's twin**.
- Similar in structure but **slightly smaller than Earth**, it is the second planet from the sun.

- Above its foreboding landscape is a **thick and toxic atmosphere** that consists primarily of **carbon dioxide**, with **clouds of sulfuric acid droplets**.
- With a runaway greenhouse effect, its **surface temperatures** reach **880 degrees Fahrenheit** (471 degrees Celsius), hot enough to melt lead.
- Venus is one of just two planets that **rotate from east to west**. Only **Venus and Uranus** have this "backwards" rotation.
- In another quirk, its day-night cycle – the time between sunrises as opposed to the length of a single axial spin – takes **117 Earth days** because **Venus rotates in the direction opposite** of its **orbital path** around the sun.

12. Lumpy Skin Disease

Why in News?

- The Bihar government sounded an alert and issued an advisory about the likely spread of the disease.

About

- What is it? ➔ Lumpy Skin Disease is a **viral illness** that causes **prolonged morbidity in cattle** and **buffaloes**.
- Caused by ➔ the poxvirus **Lumpy skin disease virus** (LSDV).
    - The virus is one of three closely related species within the **genus capripoxvirus**, the other two species being **Sheeppox virus** and **Goatpox virus**.
- Symptoms ➔
    - It **appears as nodules** of two to five-centimetre diameter **all over the body**, particularly around the head, neck, limbs, udder and genitals.
    - The lumps gradually open up like **large** and **deep wounds**.
- Transmission ➔ The LSD virus easily spreads **by blood-sucking insects** like **mosquitoes**, **flies** and **ticks** and through saliva and contaminated water and food.
- Treatment ➔ There is **no treatment** for the virus, so prevention by vaccination is the most effective means of control.
- Affected Countries ➔
    - LSD is **endemic to Africa** and **parts of West Asia**, where it was first discovered in 1929.
    - In **Southeast Asia** the **first** case of LSD was **reported in Bangladesh** in **July 2019**.
    - In **India** it was first reported **from Mayurbhanj**, **Odisha** in August 2019.
- Due to its infectious nature and its implications on the economy, the World Organisation for Animal Health (**OIE**) **declares it as a notifiable disease**.
- According to the Food and Agriculture Organization (**FAO**), **in some cases** (under 10%) the **infected animal succumbs to the disease**.

13. 2-deoxy-D-glucose (2-DG)

Why in News?

- The DCGI has granted emergency use approval to DRDO's 2-DG drug for treatment in moderate to severe cases of Covid-19.

About

- 2-deoxy-D-glucose (2-DG) is an **anti-Covid oral drug**.
- developed by ➔ It has been developed by the **Institute of Nuclear Medicine and Allied Sciences (INMAS)**, a lab of DRDO in collaboration with Dr Reddy's Laboratories (DRL).
- How does a 2-DG drug work? ➔
    - The 2-DG comes in **powder form** in the sachet. It is **taken orally by dissolving the powder in water**.
    - The drug **accumulates** in the **virus-infected cells**. Thereby, **prevents virus growth** by stopping viral synthesis and energy production.
    - The **selective accumulation** of the drug in virally infected cells makes this drug unique.
- Significance of this drug ➔
    - The drug helps in the **faster recovery of hospitalised patients**. Further, it also **reduces** supplemental oxygen dependence.
    - A higher proportion of patients treated with 2-DG also **showed RT-PCR negative conversion** in Covid-19 patients.

👉 Drugs Controller General of India (DCGI)

- DCGI comes **under** the **Ministry of Health and Family Welfare** and the apex department of the Central Drugs Standard Control Organization of the Government of India.
- Functions ➔ **Approval of licences** of specified categories of drugs.
- **Sets standards** for the manufacturing, sales, import, and distribution of drugs in India.

14. OSIRIS-REx Mission

Why in News?

- NASA's OSIRIS-REx Mission will depart from asteroid Bennu and start its two-year-long journey back to Earth.

About

- Full form ➔ **OSIRIS-REx stands for** Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer.
- Background ➔ The mission was **launched in 2016**. It was the **first U.S. mission** to successfully collect a sample from an asteroid.
- Aim ➔ To **travel to a near-Earth asteroid** named **Bennu** and bring a small sample back to Earth for study.
- Instruments ➔ The spacecraft contains **five instruments** meant to explore Bennu. This includes **cameras**, **a spectrometer** and a **laser altimeter**.
- Duration ➔ The mission is essentially a **seven-year-long**. The mission will conclude when **at least 60 grams** of samples are **delivered back to the Earth**.

About asteroid Bennu:

- Bennu is considered to be an **ancient asteroid** that has not gone through a lot of composition-altering change through billions of years, which **means** that **below its surface lie chemicals and rocks from the birth of the solar system**.
- Therefore, scientists and researchers are interested in studying this asteroid as it might **give them clues** about the **origins of the solar system**, **the sun**, **the Earth** and **the other planets**.

- So far, we know that Bennu is a **B-type asteroid**, implying that it contains **significant amounts of carbon** and **various other minerals**.
- Because of its high carbon content, the asteroid **reflects about four per cent of the light** that hits it, which is **very low** when compared with a planet like Venus, which reflects about 65 per cent of the light that hits it. **Earth reflects about 30 per cent**.

15. Yaogan Satellites

Why in News?

- China has successfully launched the eighth group of three Yaogan-30 satellites into orbit on a Long March 2C rocket.

About

- Yaogan is a series of **Chinese reconnaissance satellites** launched in the early 21st century.
    - A reconnaissance satellite or intelligence satellite is an **Earth observation satellite** or **a communications satellite**. It is deployed **for military** or **intelligence applications**.
- Purpose ➔ The satellites will be used for **electromagnetic environment surveys** and **other related technology** tests.
- First Launched in ➔ The **first Yaogan 1 satellite** was launched in the **year 2006**.
- Concerns ➔ Western analysts suspect that these Yaogan satellites are **equipped with synthetic aperture radar(SAR)** for military reconnaissance purposes.
    - SAR refers to a technique for **producing high-resolution images**. The radar can **penetrate clouds and darkness** and **produce precise images**. This means that it can **collect data day** and **night** in any weather.

16. Winchcombe

Why in News?

- A piece of the Winchcombe meteorite that touched down in the town of Winchcombe in Gloucestershire in the UK in February 2021 will be displayed at the National History Museum.

About

- **Meteoroids** are **objects in space** that range in size from dust grains to small asteroids.
- But when meteoroids **enter the Earth's atmosphere** they are called **meteors**.
- But if a meteoroid **enters the Earth's atmosphere** and **hits the ground**, it is called a **meteorite**.

How was the meteorite discovered?

- The piece of meteorite, which is a **103 gram fragment of black rock resembling coal**, was found in a field by **one Mira Ihasz** and a team from the University of Glasgow.
- The meteorite landed in the driveway of a house located in **Gloucestershire** in February and considered "**astonishingly rare**".

Space missions to Asteroids:

- NASA's **OSIRIS-REx mission** (2018) for asteroid **Bennu**.
- Japan's **Hayabusa 2 mission** for asteroid **Ryugu** (2014**).**

17. Zeolites

Why in News?

- National carrier Air India has begun the first of its "zeolite cargo flights". This was done after the government of India started the process of importing zeolite from across the world for use in medical oxygen plants.

About Zeolites in Medical Oxygen Plants

- The technology being developed by the DRDO uses the **pressure swing adsorption process** and **molecular sieve zeolite** in oxygen generation.
- Zeolites are used as **adsorbent material**.
- An oxygen concentrator uses Zeolites to **adsorb atmospheric nitrogen** and then **vents out the nitrogen**. This leaves oxygen gas remaining to be used for patients.
- In high pressure, the surface area of zeolites increases and thus is **capable** of **adsorbing large quantities of nitrogen**.

Pressure Swing Adsorption:

- Pressure swing adsorption (PSA) is a technology **used to separate some gas species from a mixture of gases under pressure**.
- PSA operates at **near-ambient temperatures**.
- Specific adsorbent materials (e.g., zeolites, activated carbon, molecular sieves, etc.) are used as a **trap**, preferentially **adsorbing the target gas species at high pressure**.

👉 Zeolites

- Zeolites are **microporous**, **three dimensional crystalline solid of aluminium silicate**. Zeolites have small openings of fixed size in them which allow small molecules to pass through them easily but larger molecules cannot pass through them; that is why they are sometimes called **molecular sieve**.
- Zeolites are either formed **naturally** or **can be synthesized**.
- Properties of Zeolites ➔
    - Zeolites are **very stable solids** that **resist a variety of environmental conditions**. The melting point of zeolite is very high (over 1000°C), and they don't burn.
    - They also **resist high pressures**.
    - Moreover, they also **don't get dissolved** in water or other inorganic solvents and **don't oxidize in the air**.
    - Since zeolites are not reactive and are obtained from naturally occurring minerals, they do **not have any harmful environmental effects**.

18. White fungus

Why in News?

- Four cases of 'white fungus' or 'candidiasis' have been detected in Patna, Bihar.

About

- White Fungus or Candidiasis is a **fungal infection** caused by **a yeast** (a type of fungus) called **Candida**.

- Candida normally **lives on the skin and inside the body**, in places such as the mouth, throat, gut, and vagina, without causing any problems.
- Candida can **cause infections** if it **grows out of control** or if it **enters deep into the body** (for example, the bloodstream or internal organs like the kidney, heart, or brain).
    - The most common species that causes infection is **Candida albicans**.
- Cause ➔
    - This infection can be caused **due to low immunity**, or if people come in contact with things that contain these moulds like water, etc.
    - **Children and women** are **more at risk** of contracting the fungal infection.
    - Like the black fungus, white fungus is also more likely to **afflict people with compromised immune systems**, pre-existing medical conditions, AIDS, a recent **kidney transplant** or **diabetes**.
- Symptoms ➔
    - People experience symptoms **similar to Covid** if it reaches the lungs such as chest infection, despite testing negative for the virus.
    - White fungus **affects the lungs** as well as **other parts of the body** including the nails, skin, stomach, kidney, brain, private parts and mouth.
- Diagnosis and Treatment ➔
    - **CT scans** or **X-Rays** can reveal the condition.
    - Patients with the white fungus are currently being treated with known **anti-fungal medication**.
- Prevention ➔ Special caution is **required of moulds in water** that can lead to infection. **Proper sanitation** is very important.

19. Kyasanur Forest Disease

Why in News?

- A new point-of-care test has been found to be highly sensitive in the rapid diagnosis of Kyasanur Forest Disease (KFD). This disease is also known as monkey fever.

About

- Developed by ➔ Indian Council of Medical Research (**ICMR**)-**National Institute of Virology**.
- Features ➔ It includes a **battery-operated Polymerase Chain Reaction (PCR) analyser**, which is a portable, lightweight and universal cartridge-based sample pre-treatment kit and nucleic acid extraction device that **aid in sample processing** at the point of care.
- Benefits ➔
    - It would be **beneficial for the diagnosis of KFD** as the outbreaks mainly happen in **remote areas**, where there is lack of well-equipped sample handling and laboratory testing facilities.
    - It would be useful in **quick patient management** and **controlling further spread of the virus**.

👉 Kyasanur Forest Disease:

- It is caused by **Kyasanur Forest disease Virus** (KFDV), which primarily **affects humans and monkeys**.
- It was first identified in **1957** in a sick monkey from the **Kyasanur Forest in Karnataka**. Since then, between 400-500 human cases per year have been reported.
- Eventually, KFD emerged as a **grave public health problem** spreading through the entire Western Ghats.

- Transmission ➔
  - In , it may occur **after a tick bite** or **contact with an infected animal** (a sick or recently dead monkey).
- Symptoms ➔ Characterised by **chills**, **frontal headache**, **body ache**, and **high fever** for five to 12 days with a case fatality rate of 3 to 5%.
- Diagnosis ➔
  - Diagnosis can be made in the early stage of illness by molecular **detection by PCR** or **virus isolation** from blood.
  - Later, serologic testing using **Enzyme-linked Immunosorbent Serologic Assay** (**ELISA**) can be performed.
- Treatment and Prevention ➔
  - There is **no specific treatment** for monkey fever.
  - A **vaccine** (Formalin inactivated KFDV vaccine) does **exist for KFD** and is **used in endemic areas** of India.
  - However, it is found that **vaccines are not effective** once the person is **infected with fever**.

20. Yellow Fungus

Why in News?

- A COVID-19 patient in Ghaziabad has been diagnosed with a Yellow Fungus infection.

About

- What is it? ➔ Yellow Fungus is also called **mucor septic**. It is a fungal infection that medical experts say generally does **not occur in humans but in reptiles**.
- Causes ➔ **Poor Hygiene**, **High levels of humidity** beyond the 30-40% range, **Old food and improper disposal** also contribute to the growth of the fungus, **Excess use of steroids** is also a possible reason in Covid-19 patients.
- Symptoms ➔
  - Symptoms of yellow fungus are **laziness**, **loss of appetite**, or **no appetite** at all and weight loss.
  - In serious cases, yellow fungus can also cause **leakage of pus and slow healing of the open wound** or **necrosis** in which cells in living tissue die prematurely.
- Treatment ➔ Antifungal drug **Amphotericin-B** is being considered as a **primary treatment** of yellow fungus. The same injection is being used currently to treat black or white fungus cases in the country.
- Why is Yellow Fungus more dangerous than black and White Fungus?
  - Yellow fungus infection, unlike the two other infections, could be much **more dangerous** as it **starts off internally**. Thus, its **diagnosis is very difficult**.
  - Therefore, it **remains critical** that patients seek help for their infection as soon as they start observing symptoms.

21. Paediatric inflammatory multisystem syndrome (PIMS-TS)

Why in News?

- Recently, a study mentioned that symptoms of PIMS-TS were seen in children.

About

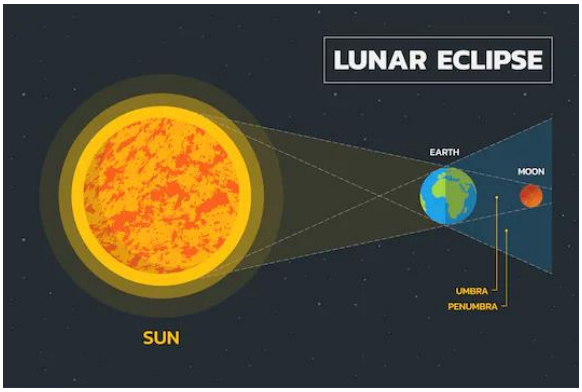
- PIMS-TS (a systematic disorder), also known as multisystem inflammatory syndrome in children (**MIS-C**), is a **rare condition associated with SARS-CoV-2 infection**.
    - The similar condition in adults is known as multisystem inflammatory syndrome in adults (**MIS**-A).
- It was **first defined in April 2020**.
- Causes ➔ It is not known what triggers the condition, but it is thought to be a **rare immune overreaction** that occurs approximately four to six weeks after mild or asymptomatic SARS-CoV-2 infection.
- Symptoms ➔ **fever**, **rash**, **eye infection**, **diarrhoea**, **stomach-ache** and **nausea**.
    - In some rare cases, the condition may lead to **multi-organ failure**.

22. Lunar Eclipse

Why in News?

- The two celestial events – Total Lunar Eclipse and Supermoon coincided on may 26.

About Lunar Eclipse



- The lunar eclipse occurs when the **Earth comes between the Sun and the Moon** thereby obstructing the sunlight falling on the Moon.
- Lunar eclipses **only happen at Full Moon**.
- Types of Lunar Eclipse ➔ There are **three kinds** of lunar eclipses:
    1. Total Lunar Eclipse → During this, the **Earth comes in between the Sun and the Moon**. It stops the light of the Sun from reaching the Moon and casting a **complete shadow** over it.
    2. Partial Lunar Eclipse → During this, the **moon will travel** through the **Earth's outer penumbra** before and after partially sweeping through the Earth's inner dark umbral shadow.
    3. Penumbral Lunar Eclipse → During this, the **Moon moves** through the **outer part of the Earth's shadow**, thus **becoming very faint**.
- Note ➔ The Earth's shadow is composed of **two cone-shaped components**.
    - Penumbra or outer shadow is a zone where the **Earth blocks part of the Sun's rays** from reaching the Moon.
    - Umbra or inner shadow is a zone where the **Earth blocks all direct sunlight** from reaching the Moon.

What is a supermoon?

- The Moon travels around our planet in an **elliptical orbit** or **an elongated circle**.
- Each month, the **Moon passes through perigee** (the point closest to Earth) and apogee (the point farthest from Earth).
- When the Moon is at or **near its closest point to Earth** at the same time as it is full, it is called a "**supermoon**."
- During this event, because the full moon is a little closer to us than usual, it appears **especially large and bright** in the sky.

- Note ➔ According to NASA, the term supermoon was **coined by astrologer Richard Nolle in 1979**. In a typical year, there may be two to four full supermoons and two to four new supermoons in a row.

23. National AI Portal (INDIAai)

Why in News?

- Recently, the first anniversary of the 'National AI Portal' has been celebrated.

About

- Launched in ➔ **May 2020**.
- Launched by ➔ It is a joint initiative by the Ministry of Electronics and IT (**MeitY**), National e-Governance Division(**NeGD**) and **NASSCOM**.
- Objective ➔ It will **create and nurture a unified AI ecosystem** for driving excellence and leadership in India's AI journey.
- Purpose ➔ The portal works as a **one-stop digital platform** for **sharing of resources**. Such as articles, startups, investment funds in AI, resources, companies and educational institutions related to AI in India.
- The portal also **shares documents**, **case studies**, **research reports** etc. It also has a section about learning and new job roles related to AI.

👉 Other Artificial Intelligence Related Government Initiatives

- **Responsible AI for Youth Programme**
  - Launched by ➔ The programme has been launched by the **National e-Governance Division**, **MeitY**. It is in collaboration with Intel India with support from the Ministry of Education.
  - Purpose ➔ The program is designed to **reach out to students** from the government schools pan India. It aims to **empower them to become 'AI ready'** and **help reduce the AI skill gap in India**.
  - Eligibility ➔ The program is open to students from Government Schools, **classes 8 – 12** across the country. It will be **implemented in a phase-wise manner**
- **Responsible AI for Social Empowerment (RAISE) 2020**
  - RAISE 2020 has been organised by the **MeitY in association with the NITI Aayog**.
  - The theme for this conference is "**AI for Social Transformation, Inclusion and Empowerment**".
  - Purpose ➔ To bring together people to **exchange ideas** on the **use of Artificial Intelligence** for social empowerment. This includes inclusion and transformation in industries such as education, smart mobility, agriculture and healthcare among others.

24. The Unicorn

Why in News?

- Scientists have discovered what may be the smallest-known black hole in the Milky Way galaxy and the closest to our solar system — an object so curious that they nicknamed it 'the Unicorn.'

About

- The black hole is **roughly three times the mass of our sun**, testing the lower limits of size for these extraordinarily dense objects that possess gravitational pulls so strong not even light can escape.

- A luminous star called a **red giant orbits with the black hole** in a so-called **binary star system named V723 Mon**.
- The black hole is **located about 1,500 light years** — the distance light travels in a year, 9.5 trillion km — from Earth.
- While it may be the **closest one to us**, it is still far away. By way of comparison, the **closest star to our solar system**, **Proxima Centauri**, is 4 light years away.

About Black holes:

- Black holes are **electromagnetically dark**, and so they are difficult to find
- There are **three categories** of black holes:
    - The smallest, like 'the Unicorn,' are so-called stellar **mass black holes** formed by the gravitational collapse of a single star.
    - There are **gargantuan 'supermassive' black holes** like the one at our galaxy's center, **26,000 light years from Earth**, which is four million times the sun's mass.
    - A **few intermediate-mass black holes** also have been found with masses somewhere in between.

'The Unicorn'

- 'The Unicorn' falls into what the researchers called a "**mass gap**" between the largest-known **neutron stars** - objects similarly formed by a large star's collapse - at **around 2.2 times the mass of our sun** and what previously had been considered the **smallest black holes** at around five times the sun's mass.
- Black holes like this **one form when massive stars die and their cores collapse**.
- Its **strong gravity alters the shape of its companion star** in a phenomenon known as tidal distortion, making it elongated rather than spherical and causing its light to change as it moves along its orbital path.
- It was these **effects on the companion star**, observed using Earth-based and orbiting telescopes, that indicated the black hole's presence

Geography

1. Oldest Water on Earth

Why in News?

- The discovery of the water 2.4 km below the Earth's surface has since been heralded as one of great importance, given its ramifications on what we know about the origin and evolution of our planet.

About

- In 2009, Geologist Dr Barbara Sherwood Lollar of the University of Toronto extracted water **from a Canadian mine**. That water was found to be **1.6 billion years old**– the **oldest to be found on our planet**.
- The discovery of water was at a **depth of 2.4 kilometres** in **Kidd Creek Mine in Canada**.
- The sample of the oldest water was then **sent to the UK's Oxford University** for **further research.**

What did the scientists find?

- The oldest water on Earth was found to be **highly saline**. The oldest water was **ten times saltier than seawater**.
- The **chemolithotrophic microbes** had been **able to survive** in this highly saline water
    - **Chemolithotrophic microbes**: These are **bacteria** that can **thrive in the most extreme surroundings** such as the absence of light, organic presence, etc.
- Moreover, these microbes were found **feeding on nitrogen and sulphate**. The chemistry that supported them is similar to ocean beds that are known to support similar extreme life forms.
- Hence, it was concluded that the **Canadian Shield** on which the **Kidd Creek Mine** is located **used to form an ocean floor in the past**.
- However, due to millions of years of flux, the **horizontal seabed became vertical** from which the water sample was extracted.

Significance of these Findings:

- Possibility of Life on Mars ➔ The **Canadian Shield** which has the **least tectonic activity** is the closest analogue on Earth to the subsurface of Mars.
- If the **life-supporting water** can be found at this Canadian Shield which is 2.4 km below the Earth.
- Then, it may be possible that the same could be **true** in the **case of the Red Planet**.
- Hence, this hypothesis provides **help for Mars missions** like **Perseverance**. As the Perseverance and other missions are looking for signs of present or past life on Mars.

2. Vorukh

Why in News?

- Kyrgyzstan said at least 31 people have been killed in heavy clashes at its disputed border with Tajikistan, as officials from the two ex-Soviet countries met in a bid to defuse tensions.

About

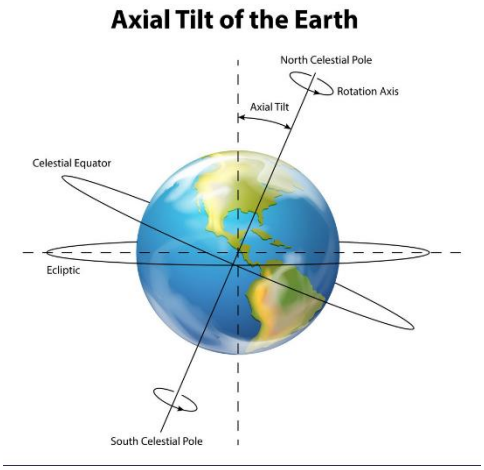
- Vorukh is a **jamoat** in **northern Tajikistan**. It is an exclave **surrounded by Kyrgyzstan** that forms part of the city of Isfara in Sughd Region.
- The location of the border of the enclave is **disputed by the Tajik and Kyrgyz governments**.
- More than a third of the two impoverished, mountainous countries' border is disputed, with the area surrounding the Vorukh, where **recent conflict erupted**, a **regular flashpoint over territorial claims** and **access to water**.
- In April and May 2021 the region once again brought tensions between the two countries - **at least 31 people were killed** in an **ongoing fighting**.

3. Shift in Earth's axis due to Climate Change

Why in News?

- Recently, a study published in Geophysical Research Letters of the American Geophysical Union (AGU) has stated that the planet's axis of rotation has been moving more than usual due to climate change.

About Earth's axis



- The Earth's axis of rotation is the **line along which it spins around itself as it revolves around the Sun**.
- The points on which the axis intersects the planet's surface are the **geographical north** and **south poles**.
- How it shifts? ➔
    - The location of the poles is **not fixed**, however, as the axis moves due to **changes in how the Earth's mass is distributed** around the planet. Thus, the poles move when the axis moves, and the movement is called "**polar motion**".
    - According to NASA, data from the 20th century shows that the **spin axis drifted** about **10 centimetres per** year. Meaning over a century, polar motion exceeds 10 metres.
    - Generally, polar motion is caused by **changes in the hydrosphere**, **atmosphere**, **oceans**, or **solid Earth**.
- Major Highlights of The Study ➔
    - Since the 1990s, **climate change** has caused **billions of tonnes of glacial ice to melt into oceans**. This has caused the Earth's poles to move in new directions.
    - As per the study, the north pole has shifted in a **new eastward direction** since the 1990s, because of **changes in the hydrosphere** (meaning the way in which water is stored on Earth).
    - From 1995 to 2020, the average speed of drift was **17 times faster** than from 1981 to 1995. Also, in the last four decades, the poles moved by about 4 metres in distance.
- Latest factors behind this change ➔
    - The **faster ice melting**, change in non-glacial regions **due to climate change** and **unsustainable consumption of groundwater** for irrigation and other anthropogenic activities.

- As **millions of tonnes of water** from below the land is **pumped out** every year for drinking, industries or agriculture, most of it eventually joins the sea, thus **redistributing the planet's mass**.

4. Dahla Dam

Why in News?

- The Taliban has captured Afghanistan's second-biggest dam after months of fierce fighting in its former bastion of Kandahar.

About

- The Dahla Dam is also known as **Arghandab Dam**.
- It is located in the **Shah Wali Kot District of Kandahar Province**, **Afghanistan**.
- Constructed in➔ **1952**
- It is built on the **Arghandab River**.
- It provides **irrigation to farmers** via a **network of canals** as well as drinking water for the provincial capital
- It is now under **Taliban control**.
- The dam's capture comes after **clashes erupted** in **neighbouring Helmand province** just days after the U.S. military formally began withdrawing its remaining troops from Afghanistan.

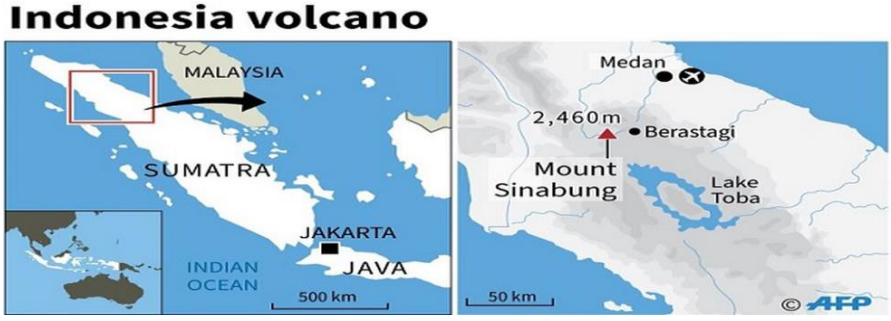
5. Mount Sinabung

Why in News?

- Indonesia's Mount Sinabung, located in the North Sumatra province, erupted in May 2021 belching a massive column of volcanic ash and smoke 3,000 metres (3 km) into the sky.

About

- The volcano has been **active since 2010** when it erupted after nearly 400 years of inactivity.
- Indonesia is home to many active volcanoes owing to its location in the "**Ring of Fire**" or **the Circum-Pacific Belt** — an area along the Pacific Ocean characterised by **active volcanoes** and **frequent earthquakes**.
- The **Ring of Fire** is home to about **75 per cent of the world's volcanoes** and about 90 per cent of earthquakes also occur here.



6. Arctic Science Ministerial

Why in News?

- India is participating in the 3rd Arctic Science Ministerial (ASM3) – the global platform for discussing research and cooperation in the Arctic region.

About

- What is it? ➔ Arctic Science Ministerial (ASM) is a global platform **for discussing research and cooperation in the Arctic region**.
- Background ➔ The **first two** Arctic Science Ministerial(ASM) meetings were **held in the USA in 2016** and **Germany in 2018 respectively**.
- ASM3, jointly **organised by Iceland and Japan**, is the first Ministerial meeting being held in Asia.
- Purpose ➔ The meeting is designed to **provide opportunities** to various stakeholders to **enhance collective understanding** of the **Arctic region**. The meeting also emphasizes the constant engagement in monitoring and strengthen Arctic observations.
- The theme for this year ➔ '**Knowledge for a Sustainable Arctic**'.

👉 India's Engagement in the Arctic Region:

- India's engagement with the Arctic dates back to **1920** with the **signing of the Svalbard Treaty** in **Paris**.
- Since July 2008, India has had a **permanent research station** in the Arctic called **Himadri at NyAlesund**, Svalbard Area in Norway.
- India has also deployed a **multi-sensor moored**(anchored) **observatory** called **IndARC** in the Kongsfjorden fjord since July 2014.
- The research in the Arctic region from India is **coordinated by** the **National Centre for Polar and Ocean Research** (**NCPOR**), **Goa**. The NCPOR falls under the Ministry of Earth Sciences, Government of India.

👉 Arctic Council:

- The Arctic Council was formally established in **1996 by the Ottawa Declaration**.
- Purpose ➔ It is an **intergovernmental forum** for promoting cooperation, coordination and interaction among the Arctic States.
- Members ➔ The members of the Arctic Council include **Canada**, **Denmark**, **Finland**, **Iceland**, **Norway**, **Russia**, **Sweden** and the **United States**.
- Observer Status ➔ Since 2013, **India enjoys 'Observer' status** in the Arctic Council. Twelve other observer countries are Japan, China, France, Germany, UK, Italy, Switzerland, Poland, Spain, Netherlands, Singapore, and South Korea.

7. Cyclone Tauktae

Why in News?

- Cyclone Tauktae which formed over the Southeast Arabian Sea heads towards Gujarat, likely to intensify into a 'very severe' storm.

About

- With its prevalence in **Arabian Sea**, it will **affect** the West Coast states of **Maharashtra**, **Karnataka**, **Kerala**, **Goa** and **UTs like Lakshadweep**, where IMD forecasted heavy rains.
- It is very likely to **move north-northwestwards** and reach near **Gujarat** coast by May 18.
- The name is given from a Burmese word '**Tauktae' suggested by Myanmar**, which **means gecko**, a lizard known for its distinctive vocalizations.

👉 Nomenclature

- A **WMO/ESCAP** (World Meteorological Organisation/United Nations Economic and Social Commission for Asia and the Pacific) **Panel on Tropical Cyclones agreed in principle** to assign names to the tropical cyclones in the Bay of Bengal and the Arabian Sea **during its 27th session held in Muscat**, **Sultanate of Oman**, in **2000**.
- The naming of the tropical cyclones **over the north Indian Ocean** commenced from September 2004, with names **provided by eight members**, **starting with Bangladesh**, followed by **India**. Since then, another five countries have joined the Panel.
- The Regional Specialised Meteorological Centre (**RSMC**), **New Delhi** is **responsible for naming** the cyclonic storms formed over the Bay of Bengal and the Arabian Sea when they reach the relevant intensity.
- There are **six RSMCs in the world**, including the **IMD** and **five Tropical Cyclone Warning Centres**.

8. Statehood Day of Sikkim

Why in News?

- Recently, Prime Minister Narendra greeted the people of Sikkim on their Statehood Day.

About

- Sikkim was founded by the **Namgyal dynasty** in the **17th century**.
    - The Namgyal dynasty ruled Sikkim until 1975.
- It became a **princely state of British India** in **1890**.
- Declared as **Protectorate of India** in **1950** following the Indo-Sikkimese Treaty.
- Under this treaty, India is **responsible for the external relations**, **defence**, and **strategic communications** of Sikkim.
- Became the **22nd state** of India on **16th May 1975**.

Key point related to Sikkim

- Location ➔ **Northeast India** (mainly eastern Himalayas).
- Capital ➔ **Gangtok**.
- Borders ➔

- North and Northeast: **Tibet** (China)
- Southeast: **Bhutan**.
- South: **West Bengal**.
- West: **Nepal**.

- Geography ➔
  - **Mount Kanchenjunga** (India's highest peak and the world's third-highest mountain) is situated here.
  - **Kanchenjunga National Park** (KNP) is India's high-elevation conservation area.
    - In 2016, **UNESCO declared KNP** as a **World Heritage Site** under the '**mixed**' category (sites containing elements of both natural and cultural significance).
  - Major Rivers ➔ **Teesta River** and its tributaries such as the **Rangit**, **Lhonak**, **Talung**, and **Lachung**.

9. Helmand

Why in News?

- Fighting between the Taliban and Afghan government forces resumed in the restive southern province of Helmand, ending a three-day ceasefire agreed by the warring sides to mark the Id-ul-Fitr holiday.

About

- Helmand is also known as **Hillmand** or **Helman** and, in ancient times, as **Hermand** and **Hethumand**.
- It is one of the **34 provinces of Afghanistan**, in the south of the country.
- It is the **largest province** by area. The province **contains 13 districts**.
- Lashkargah serves as the **provincial capital**. The **Helmand River** flows through the mainly desert region of the province, providing **water used for irrigation**. The **Kajaki Dam**, which is one of Afghanistan's major reservoirs, is located in the Kajaki district.
- Helmand is believed to be one of the **world's largest opium-producing regions**, responsible for around **42%** of the world's total production.
- Since the **2001 War** in Afghanistan, Helmand Province has been a **hotbed of insurgent activities**. It has been considered to be **Afghanistan's** "**most dangerous**" **province**.

10. Lightning kills 18 Elephants

Why in News?

- Eighteen elephants died on a hilltop in Assam after being struck by a single flash of lightning. They died due to the current flowing through the ground called 'step potential'.

About Process of formation of lightning

- During a storm or rain, particles of rain, ice, or snow inside **storm clouds collide** with each other.

- It creates a **negative charge** in the lower reaches of storm clouds and a **positive charge** in the upper reaches of clouds. This **imbalance results** in **inter-cloud lightning**.
- Ground Objects like **trees and earth** itself during storms become **positively charged due to friction** with particles. It creates an **imbalance** between earth and cloud. Thus, nature **seeks to balance this** by **passing current between the two charges** i.e. from clouds to earth.
- Thus, lightning is the process of occurrence of a natural electrical discharge of **very short duration** and **high voltage** between a cloud and the ground or within a cloud. It is accompanied by a **bright flash** and **sound** and **sometimes thunderstorms**.
- Types ➔
    - **Inter cloud** or **intra cloud**(IC) lightning are visible and are harmless.
    - It is **cloud to ground** (CG) **lightning** that is harmful as the 'high electric voltage and electric current' leads to electrocution.

Ways Lightning kill Animals

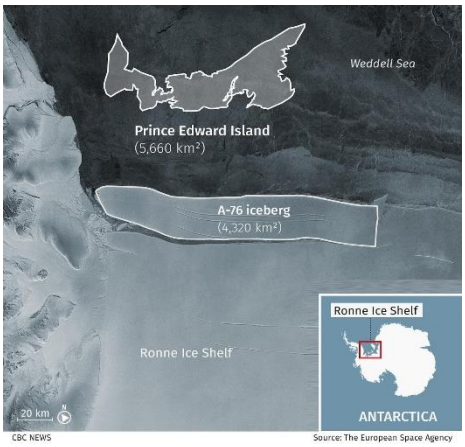
- Direct Flash ➔ An animal in an open field may be **struck directly by lightning** if part of its body protrudes over other objects in the vicinity. **Taller animals** are **more vulnerable**.
- Side Flash ➔ When lightning strikes a tall object such as a tree, it may generate a side flash that can strike an **animal standing underneath the tree**.
- Touch Potential ➔ If one part of a tall animal's body is in contact with the ground while another part, at a higher elevation, comes in **contact with a lightning-struck object**, a partial current may pass through its body.
- Step Potential ➔ When an **animal's front and hind feet** are **far enough apart**, a **partial current may pass** through the body in **certain circumstances**.
- This is the **most common lightning hazard** among four-legged animals.

11. A-76 Iceberg

Why in News?

- The world's largest existing iceberg has been found in Antarctica. It has been named as A-76 by scientists.

About



- A-76 Iceber has been **spotted in the satellite** images captured by the European Space Agency's **Copernicus Sentinel-1 mission**.
- Origination ➔ The iceberg has been formed after it **broke away from Antarctica's Ronne Ice Shelf**. It is now **floating freely** in the Weddell Sea, a large bay in western Antarctica.
- Characteristic ➔ The iceberg is shaped like a **giant ironing board**. It is measured around **170 km in length** and **25 km in width**. This makes the A-76 to become slightly larger than the Spanish island of Majorca.
- The Largest Existing Iceberg ➔ A-76 is now designated as the **largest existing iceberg** on the planet. It surpassed the A-23A (It is also floating in the Weddell Sea).
- Importance ➔ Once this iceberg melts, it will **not lead to a sea-level rise** because it was **part of a floating ice shelf**. It is just like a melting ice cube doesn't increase the level of the water in the glass.

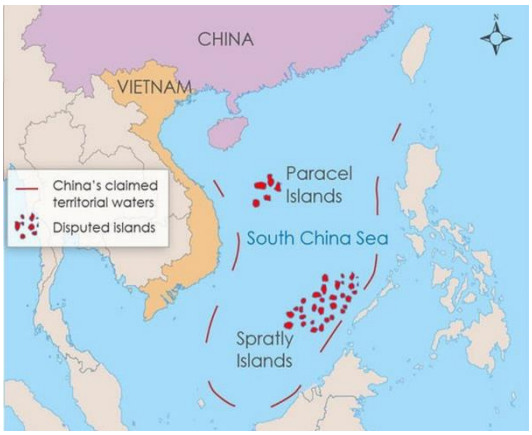
- This makes the icebergs like this **different from glaciers** or **ice sheets**. Glaciers or ice sheets found on land, and they raise global sea levels when they break off into the ocean and melt.

12. Paracel Islands

Why in News?

- A United States warship sailed through the Paracel Islands in the disputed South China Sea.

About



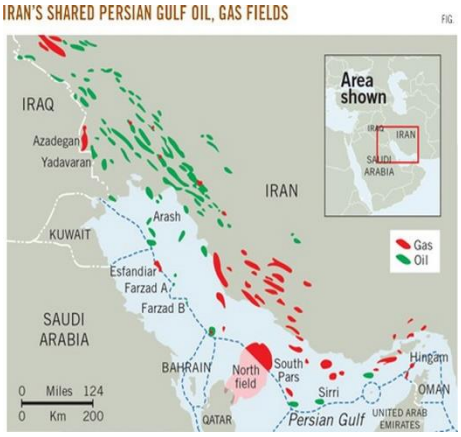
- The Paracel Islands, also known as the **Xisha Islands** are a disputed archipelago in the **South China Sea**.
- The archipelago includes about **130 small coral islands and reefs**, most grouped into the northeast Amphitrite Group or the western Crescent Group.
- They are distributed over a maritime area of around **15,000 square kilometers** with a land area of approximately **7.75 square kilometers**.
- The archipelago includes **Dragon Hole**, the deepest underwater sinkhole in the world.
- It is surrounded by **productive fishing grounds** and a seabed with potential, but as yet **unexplored**, **oil and gas reserves**.

13. Farzad B Gas Field

Why in News?

- Recently, Iran gave the Farzad-B Gas Field to Petropars, a domestic gas producer. This is a setback for India's energy ties with Iran. As ONGC has been part of the ongoing cooperation of the Gas field.

About



- Farzad B gas field is an **offshore natural gas field** located in **Persian Gulf** under the control of Iranian sovereignty.
- The gas field was **discovered in 2008** by a consortium of three Indian companies led by the state-owned ONGC Videsh, Indian Oil Corporation and Oil India.
- The gas field holds **23 trillion cubic feet of in-place reserves**. Of these about **60% is recoverable**. It also holds gas condensates of about 5,000 barrels per billion cubic feet of gas.

Deal soured after US sanctions

- Negotiations between the **consortium and the National Iranian Oil Company** (NIOC) to **develop the gas field stalled** due to secondary **sanctions against Iran** by the US and the European Union in the early 2010s.
- Following the lifting of sanctions after the **Joint Comprehensive Plan of Action** was **signed in July 2015** the consortium was close to an agreement to invest $US5 billion to develop the gas field.

- After the **United States withdrawal** from the **JCPOA** in **May 2018**, and the reinstatement of U.S. sanctions against Iran, the negotiations between the consortium and NIOC broke down.

14. Galwan Valley

Why in News?

- There was a minor face-off between Indian and Chinese troops in the no-patrolling zone at Galwan Valley in eastern Ladakh in the first week of May.

About

- The valley refers to the land that **sits between steep mountains** that buffet the **Galwan River**.
- The river has its **source in Aksai Chin**, on China's side of the LAC, and it **flows from the east to Ladakh**, where it **meets the Shyok river** on India's side of the LAC.
- The valley is **strategically located** between Ladakh in the west and Aksai Chin in the east (currently controlled by China).
- At its western end are the Shyok river and the **Darbuk-Shyok-Daulet Beg Oldie** (**DSDBO**) **road**.
- Its eastern mouth lies **not far from China's vital Xinjiang Tibet road**, now called the **G219 highway**.

15. Mount Nyaragongo

Why in News?

- As the active volcano in Congo, Mount Nyaragongo, erupted again, the Indian Army contingent under the United Nations peace keeping mission (MONUSCO) assisted in protecting civilians and U.N. officials as well as assets during the evacuation.

About

- Mount Nyiragongo is an **active stratovolcano** with an elevation of 3,470 m **in the Virunga Mountains** associated with the Albertine Rift.
- It is located **inside Virunga National Park**, in the **Democratic Republic of the Congo**, about 12 km north of the town of Goma and Lake Kivu.
- The **main crater** is about two kilometres (1 mi) wide and usually contains a **lava lake**. Nyiragongo's lava lake has at times been the **most voluminous** known **lava lake in recent history**.
- Nyiragongo and nearby Nyamuragira are together responsible for **40 per cent of Africa's historical volcanic eruptions**.

16. Belarus

Why in News?

- Recently, Belarus administration forced a commercial airline(RyanAir) flying from Greece to Lithuania to land in its territory (Minsk) allegedly on the pretext of a bomb scare, so it could arrest a dissident journalist(Roman Protasevich) on board.

About

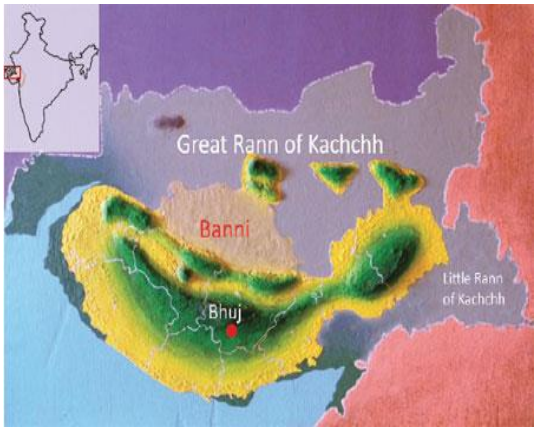
- Belarus is a **landlocked country** in **Eastern Europe**.
- It is **bordered by Russia** to the northeast, **Ukraine** to the south, **Poland** to the west, and **Lithuania** and **Latvia** to the northwest.
- Its capital is **Minsk**.
- After the **disintegration of the Soviet Union in 1991**, Belarus became a sovereign nation, and its first presidential elections were held in 1994.

17. Banni Grassland

Why in News?

- Recently, the National Green Tribunal (NGT) has ordered the removal of encroachments in Banni grasslands, Gujarat.

About



- Location ➔ **Rann of Kutch** in Kutch District, Gujarat
- It is a mixture of two ecosystems, **arid grassland** and **wetland**.
- It is the **largest grassland in Asia**.
- This region is home to a **nomadic pastoralist community**, **the Maldharis**.
    - This community has to **maintain their community forest rights**.
- Conservation ➔ Declared as **Protected Forest in 1955** under Indian Forest Act, 1927.
- Wildlife Institute of India (WII) has **declared** Banni grassland and Narayan Sarovar Sanctuary (both in Kutch) as the **last remaining habitats of the cheetah in India**.

About Maldharis:

- Maldharis are a **tribal herdsmen community inhabiting Banni**.
- Originally nomads, they came to be known as Maldharis **after settling in Junagarh** (mainly Gir Forest).
- The literal meaning of Maldhari is **keeper (dhari) of the animal stock** (mal).
    - The livestock include sheep, goats, cows, buffalo, and camels.
- The **Gir Forest National Park** is home to around **8,400 Maldharis**.

National Green Tribunal (NGT)

- It is a **statutory body**, established by an act of Parliament.
- Established in ➔ **2010**.
- Headquarters ➔ **New Delhi**.
- Objective ➔ To **handle the cases pertaining to environmental issues**.
- It draws inspiration from **Article 21** which relates to Protection of life and personal liberty that assures the citizens of India the right to a healthy environment.
- Composition ➔ **Chairperson** (retired Judge of the Supreme Court), **other Judicial members** (retired Judges of High Courts).
- Each bench of the NGT will comprise **at least one Judicial Member** and **one Expert Member**.

18. Shahi Litchi

Why in News?

- In a major boost to export of GI certified products, season's first consignment of Shahi Litchi from Bihar was exported to United Kingdom by air route.

About

- Shahi litchi was the **fourth agricultural products** to get **GI certification from Bihar** in 2018, after **Jardalu mango**, **Katarni rice** and **Magahi paan**.
- India is the **second largest producer** of litchi (Litchi chin) in the world, **after China**.
- The translucent, flavoured aril or edible flesh of the litchi is **popular as a table fruit in India**, while in China and Japan it is preferred in dried or canned form.
- **Bihar tops** in **terms of production** of litchi. Muzaffarpur, Vaishali, Samastipur, Champaran, Begusarai districts and adjoining areas of Bihar have favorable climate for growing Shahi Litchi.

19. Mekedatu Project

Why in News?

- The National Green Tribunal (NGT), Southern Zone has appointed a joint committee to look into allegations of unauthorized construction activity taking place in Mekedatu, where the Karnataka government had proposed to construct a dam across the Cauvery River.

About

- Mekedatu project is a **balancing reservoir** and **drinking water project**.
- It is to be **built at the confluence of the Cauvery and Arkavathi rivers** by the Karnataka Government.
- Purpose ➔ The project is aimed at **solving the drinking water problems** of the **Bengaluru and Ramanagara district**. It would also **generate 400 MW** of hydroelectric power.
- Issues with the project ➔ The Tamil Nadu Government has objected to the project saying **Karnataka** had **not sought prior permission** for the project.
- Tamil Nadu has also **filed a petition** in the **Supreme Court in 2018** seeking a stay on the project.

20. Dominica

Why in News?

- Fugitive diamond trader Mehul Choksi has been arrested in Dominica after he was reported missing early this week from his home in Antigua and Barbuda, the Caribbean nation of which he has been a citizen since early 2018.

About

- Dominica is an **island country in the Caribbean**.
- Its capital is **Roseau**.
- It is geographically situated as part of the Windward Islands chain in the **Lesser Antilles archipelago in the Caribbean Sea**.
- Dominica has been nicknamed the "**Nature Isle of the Caribbean**" for its natural environment.
- It is the **youngest island in the Lesser Antilles**, and in fact it is still being formed by geothermal-volcanic activity, as evidenced by the **world's second-largest hot spring**, called **Boiling Lake**.
- The country is a **member of the Commonwealth of Nations**, **the United Nations**, the Organization of American States and the Non-Aligned Movement.

Polity

1. Attorney General of India

Why in News?

- Recently, eminent jurist and former Attorney General of India (AGI) Soli Sorabjee has passed away.

About

- AGI is the **highest law officer** in the country and is **part of the Union Executive**.
- The AGI is **assisted by two Solicitor Generals** and **four Additional Solicitor Generals**.
- Constitution Articles ➔
    - **Article** 76 mentions about AGI.
    - **Article 165** mentions about the Advocate General of the States.
- Eligibility ➔
    - Must be **qualified** to be appointed a judge of the Supreme Court (SC).
    - Must be a citizen of India.
    - Must have been a **judge of some High Court** (HC) **for five years** or an advocate of some HC for ten years or an eminent jurist, in the opinion of the President.
- Tenure ➔ The Constitution has **not fixed** the tenure of the AGI.
- Appointment ➔ AGI is **appointed by the President** on the advice of the Government.
- Functions ➔
    - **Advise** the **Government on legal matters** referred to him/her by the President.
    - Perform **other such duties** of a **legal character**, assigned by the President.
    - Appear on **behalf of the Government in all cases** in the **SC** or in any case in any High Court in which the Government is concerned.
    - **Represent the Government** in **any reference made by the President** to **the SC** under Article 143 (Power of the President to consult the SC) of the Constitution.
    - Discharge the functions conferred **by the Constitution** or **any other law**.
- Rights ➔
    - Has the **Right to Speak** and to **take part in the proceedings** of both the Houses of Parliament or their joint sitting and any committee of the Parliament of which he/she may be named a member.
    - Enjoys **all the privileges and immunities** that are available to a member of Parliament.
    - Does **not fall** in the **category of government servants** and is **not debarred** from private legal practice.
- Limitations ➔
    - AGI does **not have** the **Right to Vote** in the House proceedings or in committee he/she might be a member of.
    - AGI should **not advise against** or **hold** a **brief against the Government**.
- Removal ➔ AGI holds the office **during the pleasure of the President** and can be **removed by the President** at any time.
- However, the Constitution does **not mention** the grounds for the removal of AGI or the procedure for it.

2. Emergency Financial Powers

Why in News?

- The Union defence ministry has granted emergency financial powers to the country's armed forces. This is provided in order to empower their efforts against the Covid-19 pandemic.

About

- The Emergency Financial Powers will allow armed forces to **establish and operate quarantine facilities** and **hospitals**.
- Besides, it will also help them to **operate and procure equipment** and **resources** to perform any required urgent tasks.
- The armed forces will be able to perform all these operations **without the usual clearances**.
- Who all has been given these powers?
- **Vice Chiefs of the armed forces** including the Chief Of Integrated Defence Staff, Chairman Chiefs of Staff Committee(**CISC**) and General Officer Commanding-in-Chiefs(**GOC-in-Cs**) **have these powers**. Further, similar equivalents of all three Services have been given full powers.
- Further, **Corps Commanders** and **Area Commanders** have been **delegated powers up to ₹50 lakh per case**
- Also, **Division Commanders**, **Sub Area Commanders** and **equivalents** have been delegated powers up to **₹20 lakh per case**.
- Duration ➔
    - These powers have been devolved initially for **three months from May 1 to July 31, 2021**.
    - These are in addition to the emergency powers **delegated to the medical officers of the armed forces**.

3. National Human Rights Commission (NHRC)

Why in News?

- Justice Prafulla Chandra Pant, a former Supreme Court judge, has been appointed the Acting Chairperson of the National Human Rights Commission (NHRC) with effect from April 25, the commission said.

About

- Background ➔ NHRC was **established in 1993**. It is in **conformity with the Paris Principles**, adopted at the first international workshop on national institutions for the protection of human rights held in Paris in 1991.
- Status ➔ It is a **statutory organization** established under the Protection of Human Rights Act (PHRA), 1993.
- It is headquartered in **New Delhi**.
- Composition ➔
    - The Commission consists of a **Chairperson**, **four full-time Members** and **four deemed Members**.
    - The statute lays down qualifications for the appointment of the Chairperson and Members of the Commission. A **Chairperson**, should be **retired Chief Justice of India**.
- Functions ➔
    - The purpose of the NHRC is, suo moto or **through the petition of a person**, to **investigate the violation of human rights** or the failures of the state or other to prevent a human rights violation.

- The commissions may also take on **research about human rights**, create **awareness campaigns** through various mediums, and encourage the work of NGOs.

4. Electoral Bonds

Why in News?

- SBI has provided information on the sale of electoral bonds during the recent assembly elections. This was provided after a Right to Information application was filed.

About

- The Electoral Bonds are the **non-interest-bearing financial instruments**. These bonds allow eligible donors to pay eligible political parties using banks as an intermediary.
- The Electoral Bonds aim to **ensure transparency in the funding** of political parties.
- They were introduced by the Government of India by the **Finance Bill, 2017**.
- The State Bank of India (**SBI**) **issues electoral bonds** in the months of January, April, July, and October.
- The electoral bonds are available in denominations of **₹1,000, ₹10,000**, **₹1 lakh**, **₹10 lakh** and **₹1 crore**.
- The donors can buy electoral bonds and transfer them into the accounts of the political parties as a donation. The **name of the donor** is **kept confidential**.
- Political parties will create a **specific account**. This account will be **verified by the ECI**. The political parties will encash the electoral bonds only in this verified account.
- The bonds will remain **valid for 15 days**. Within that time, the political parties have to encash the electoral bond in the designated accounts.
- **No payment** shall be made to the Political Party if the Electoral Bond is **deposited after the expiry** of the validity period.
- Eligibility ➔ Only the **registered Political Parties** are **eligible**. Further, they also have to secure at least 1% of the votes polled in the last Lok Sabha elections or the State Legislative Assembly to receive the funds.

5. State Legislative Councils

Why in News?

- The Election Commission has recently announced the deferment of elections in Andhra Pradesh and Telangana till the pandemic situation significantly improves and conditions become conducive to hold elections.

About

- Unlike the members of the legislative assembly, the members of the legislative council are **indirectly elected**.
- Strength ➔ The **maximum strength** of the council is **fixed** at **one-third** of the total strength of the assembly and the **minimum strength** is **fixed at 40**.
- It means that the size of the council **depends on the size of the assembly** of the concerned state.
- This is done to **ensure** the **predominance of the directly elected House** (assembly) in the legislative affairs of the state.
- Though the **Constitution** has **fixed** the **maximum and the minimum limits**, the **actual strength** of a Council is **fixed by Parliament**.

Manner of Election

- Of the total number of members of a State Legislative Council (SLCs),
    - **1/3** are elected **by the members of local bodies** in the state like municipalities, district boards, etc.,
    - **1/12** are elected **by graduates of three years** standing and residing within the state,
    - **1/12** are elected **by teachers of three years** standing in the state, not lower in standard than secondary school,
    - **1/3** are elected **by the members of the legislative assembly** of the state from amongst persons who are not members of the assembly, and
    - the **remainder** are **nominated by the governor** from amongst persons who **have a special knowledge** or **practical experience** of literature, science, art, cooperative movement and social service.
- Thus, **5/6** of the total number of members of a legislative council are **indirectly elected** and **1/6 are nominated** by **the governor**.
- Election method ➔ The members are elected in accordance with the **system of proportional representation by means** of a **single transferable vote**.
- The **bonafides** or **propriety** of the **governor's nomination** in any case **cannot be challenged** in the courts.
- This scheme of composition of a legislative council as laid down in the Constitution is **tentative** and **not final**.
- The **Parliament is authorized** to **modify** or **replace** the same.
- However, it has **not enacted** any such law so far.

6. Competition Commission Of India

Why in News?

- Recently the 12th Annual Day of the Competition Commission of India (CCI) was observed on 20th May.

About

- Status ➔ A **statutory body** established under the provisions of The Competition Act, 2002.
- Established in ➔ 2003.
- Composition ➔ A **Chairperson** and **6 Members** appointed by the Central Government.
- Mandate ➔ To implement provisions of The Competition Act, 2002 which –
    - **prohibits anti-competitive agreements** and abuse of dominant position by enterprises
    - **regulates mergers and acquisition (M&A)** which can have an adverse effect on competition within India. Thus, deals beyond a certain threshold are required to get clearance from CCI.

7. IT(Intermediary Guidelines and Digital Media Ethics Code) Rules,2021

Why in News?

- Recently, Facebook has clarified that it aims to comply with the provisions of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021, which have come into effect.

About the new rules

- It mandates a **grievance redressal system for over the top (OTT) and digital portals** in the country. This is necessary for the users of social media to raise their grievance against the misuse of social media.

- Significant social media firms have to appoint a **chief compliance officer** and **have a nodal contact person** who can be in touch with law enforcement agencies 24/7.
- A grievance officer ➔ Social media platforms will also have to name a **grievance officer** who shall **register the grievance within 24 hours** and **dispose of it in 15 days**.
- Removal of content ➔ If there are complaints **against the dignity of users**, **particularly women** – about exposed private parts of individuals or nudity or sexual act or impersonation etc – social media platforms will be **required to remove** that **within 24 hours** after a complaint is made.
- A monthly report ➔ They also will have to publish a **monthly report** about the **number of complaints** received and the status of redressal.
- There will be **three levels of regulation** for news publishers — **self-regulation**, **a self-regulatory body**, headed by a retired judge or an eminent person, and oversight from the Information and Broadcasting Ministry, including **codes of practices** and **a grievance committee**.
- Note ➔ Social media companies with **more than 50 lakh registered users** are considered as 'significant social media intermediaries'.

International Relations

1. South Asian Climate Outlook Forum (SASCOF)

Why in News?

- Recently, the consensus report SASCOF-19 was prepared and released by the South Asian Climate Outlook Forum (SASCOF). The report has made a forecast of normal to above normal rainfall over most South Asian countries during the upcoming monsoon season.

About

- It is a **forum of climate experts** representing **Afghanistan**, **Pakistan**, **India**, **Sri Lanka**, **Bangladesh**, **Nepal** and **Bhutan**
- It **consists of expertise** from members of the World Meteorological Organisation, Regional Integrated Multi-Hazard Early warning System, Japan Meteorological Agency and Korea Meteorological Administration.
- It is **conducted by South Asian nations** and the **World Meteorological Organisation** (WMO) **since 2010**.
- It prepares **consensus seasonal climate information** on a regional scale that provides a consistent basis for preparing national level outlooks.
- It **serves to interface with user sectors** to understand and **enhance the use of climate information** as orchestrated and supported by the Global Framework for Climate Services (**GFCS**).

2. Asian Development Outlook 2021

Why in News?

- Recently, Asian Development Bank has released its flagship Asian Development Outlook (ADO) 2021.

About

- Asian Development Outlook (ADO) is a series of **annual economic reports** on the Developing Member Countries (**DMCs**) of the Asian Development Bank (**ADB**).
- It **analyzes economic and development issues** in developing countries in Asia.

Major Highlights - For India

- Gross Domestic Product (**GDP**) will **rebound strongly by 11%** in Fiscal Year (FY) 2021-22 due to continued economic recovery boosted by increased public investment, vaccine rollout, and a surge in domestic demand.
- India's economic growth to **moderate to 7%** in **FY 2022-23**.
- The economy is expected to have **contracted by 8%** in **FY 2020-21** in line with the government's second advance estimate.

Asian Development Bank

- It is a regional development bank established on **19th December 1966**. The ADB was **modeled closely on the World Bank**.
- Headquarters ➔ **Manila, Philippines**.
- Members ➔ It has **68 members**. India is a founding member.

- ADB is an **official United Nations Observer**.
- Aim ➔ To **promote social and economic development** in Asia.
- As of 31st December 2019, ADB's **five largest shareholders** are **Japan** and the **United States** (each with 15.6% of total shares), the People's Republic of **China** (6.4%), **India** (6.3%), and **Australia** (5.8%).

3. United Nations High Commissioner for Refugees (UNHCR)

Why in News?

- The High Court of Manipur has allowed seven Myanmar nationals, who entered India secretly following the February military coup, to travel to New Delhi to seek protection from the UNHCR.

About Observations made by the Court

- Though India is **not a party** to the **UN Refugee Conventions**, the country is a party to
  - the **Universal Declaration of Human Rights of 1948** and
  - the **International Covenant on Civil and Political Rights of 1966**.
- The far-reaching and myriad protection afforded by **Article 21 of our Constitution**, as interpreted and adumbrated by our Supreme Court time and again, would indubitably encompass the **right of non-refoulement**.

👉 Non-refoulement

- It is the cornerstone of the **1951 Refugee Convention** is the **principle of non-refoulement**.
- According to this principle, a refugee should **not be returned to a country where he** or **she faces serious threats** to his or her life or freedom.

👉 United Nations High Commissioner for Refugees (UNHCR)

- It is a UN agency **for refugees**, **displaced** and **stateless people**.
- Mandate ➔
  - To **aid and protect refugees**, forcibly displaced communities and stateless people.
  - To **ensure** that everyone has the **right to seek asylum** and **find safe refuge** in another State.
  - To **assist** in **their voluntary repatriation**, local integration or resettlement to a third country.
- History ➔ It was **created in 1950**, during the aftermath of the Second World War, to help millions of Europeans who had fled or lost their homes.
- In **2020**, it marked its **70th anniversary**.
- In **1954**, it **won the Nobel Peace Prize** for its groundbreaking work in Europe.
- It has **more than 17,324 personnel** working in **135 countries**.
- Headquarter ➔ **Geneva, Switzerland**.
- Funding ➔ Almost entirely by **voluntary contributions**, with 86 per cent from governments and the European Union (EU).

4. G7 Foreign Ministers Summit

Why in News?

- External Affairs Minister S Jaishankar will embark on a four-day visit to London to participate in a meeting of foreign ministers of G7 countries. India has been invited to the meeting as a guest country.

About the G7 Summit

- Location ➔ The G7 Summit takes place at **Carbis Bay in Cornwall in the UK**.
- Aim ➔ The aim of this year's G7 summit is to **help the world fight** and **then build back better from coronavirus** and create a greener, more prosperous future.
- Guest Countries ➔ **India**, **Australia**, and **South Korea** have been invited to participate in the proceedings of the summit as "**guest countries**".

👉 Group of Seven(G7)

- G7 is an **intergovernmental organization** formed in **1975**.
- Purpose ➔ The bloc meets annually to **discuss issues of common interest** like global economic governance, international security, and energy policy.
- Countries ➔ G-7 consists of the **US**, **UK**, **France**, **Germany**, **Italy**, **Canada**, and **Japan**.
- Origin ➔ The G-7 was **formerly referred** to as the **G-8 until Russia was suspended** from the group in 2014 after illegally annexing Crimea.
- The G-7 is **not an official**, **formal entity** and therefore has **no legislative** or **authoritative power** to enforce the recommended policies and plans it compiles.

👉 D10 Group of Countries

- D10 is a **proposal by the UK** Prime Minister to **turn the G7** into a forum for the **world's ten leading democracies**.
- The D10 would include G7 countries – **UK**, **US**, **Italy**, **Germany**, **France**, **Japan**, and **Canada** – plus **Australia**, **South Korea**, and **India**.

5. Global Innovation Partnership

Why in News?

- Cabinet gives ex-post facto approval to MoU between India and UK on Global Innovation Partnership (GIP).

About

- GIP will **support Indian innovators** to scale up their innovations in third countries thereby helping them **explore new markets** and **become self-sustainable**.
- It will also **foster the innovative ecosystem in India**.
- GIP innovations will focus on **Sustainable Development Goals** (**SDG**) related sectors thereby **assisting recipient countries achieve their SDGs**.
- Through **seed funding**, **grants**, **investments** and **technical assistance**, the Partnership will **support Indian entrepreneurs** and **innovators** to test, scale up and take their innovative development solutions to select developing countries.
- GIP will also develop an **open and inclusive e-market place** (**E-BAAZAR**) for **cross border innovation transfer** and will focus on results based impact assessment thereby promoting transparency and accountability.

6. World Food Price Index

Why in News?

- According to the index, world food prices have increased for the 11th consecutive month in April. Further, the prices also hit their highest level since May 2014.

About

- Released by ➔ **The Food and Agriculture Organization**(FAO).
- It was introduced in **1996** as a public good to help in **monitoring developments** in the **global agricultural commodity markets**.
- Purpose ➔ The index is a **measure of the monthly change** in international prices of a basket of food commodities.
- Commodities ➔ It consists of the average of **five commodity group price indices**. Such as **cereal**, **vegetable**, **dairy**, **meat** and **sugar**. Also, these five indices is given weightage based on the average export shares.
- Base Year ➔ The Base Year for the index is **2014-16**.

👉 Food and Agriculture Organization (FAO)

- It is a **specialized agency of the United Nations** that leads international efforts to defeat hunger.
- Established in ➔ **1945**.
- Headquartered ➔ **Rome, Italy**.
- Reports published by FAO ➔
    - World State of Forest Report
    - State of World Fisheries and Aquaculture(**SOFIA**).
    - State of Food Security and Nutrition in the World (**SOFI**), etc
- Treaty ➔ FAO is the **depository body** of the **International Treaty on Plant Genetic Resources for Food and Agriculture**.
- Initiatives ➔
    - Globally Important Agricultural Heritage Systems(**GIAHS**).
    - Codex Alimentarius Commission or **CAC**
    - Tree Cities of the World programme among others.

7. Diplomatic Immunity

Why in News?

- The wife of Belgium's ambassador to South Korea is exercising her diplomatic immunity to avoid charges for allegedly slapping a store assistant in April 2021.

About

- It is a **privilege provided to diplomats** in the country in which they got posted. Generally, these privileges will be in the **form of exemption from certain laws and taxes**.
- This is **formed as a custom** so that the diplomats can **function without fear**, threat or intimidation from the host country.

- Diplomatic immunity is granted on the basis of **two conventions**, popularly called the Vienna Conventions that includes:
    - the **Convention on Diplomatic Relations**, **1961**, and
    - the **Convention on Consular Relations**, **1963**.
- They have been **ratified by 187 countries**, including South Korea. This means, Diplomatic immunity is a law under South Korea's legal framework and cannot be violated.
- Extent of Immunity ➔
    - According to the Vienna Convention on Diplomatic Relations, 1961, the immunity enjoyed by a diplomat posted in the embassy is "**inviolable**".
    - The diplomat **cannot be arrested** or **detained** and his house will have the same inviolability and protection as the embassy.
- Exceptions ➔
    - It is **possible** for the **diplomat's home country to waive immunity** but this can happen only when the individual has committed a '**serious crime**', unconnected with their diplomatic role or has witnessed such a crime.
    - Alternatively, the home country **may prosecute the individual**.

8. COVAX Programme

Why in News?

- Recently, the United States has decided to provide 80 million vaccine doses under the COVAX programme.

About

- Establishment year ➔ **April 2020**.
- Established by ➔
    - **World Health Organization**,
    - Center for Epidemic Preparedness and Innovation (**CEPI**),
    - **Gavi**,
    - **UNICEF** (United Nations' children's fund).
- Funded by ➔ **various NGOs** like **Bill & Melinda Gates Foundation**, **UNICEF**, and **the World Bank**.
- Objective ➔ To **pre-purchase huge quantities** of vaccines from the major manufacturers and allow smaller nations to get vaccines at the same price as larger countries.
- Aim ➔ To distribute **two billion Covid-19 vaccine doses** by the **end of 2021**
- Features ➔ **No country receives** vaccines for **more than 20%** of their population before all countries have vaccinated at least 20% of the population.

9. BRICS Astronomy Working Group

Why in News?

- Recently, India virtually hosted the 7th meeting of the BRICS Astronomy Working Group (BAWG) under the Science, Technology, and Innovation track of the BRICS 2021.

About BAWG

- Astronomy was established as **one of five thematic science areas** within **BRICS** at a ministerial meeting held in South Africa in 2014.
- Formed in ➔ The BRICS Astronomy Working Group(BAWG) **established in 2015**.
- Purpose ➔ The group provides a **platform** for the BRICS member countries to **collaborate in the field of astronomy**.
- Outcomes of the recent meet ➔ It recommended networking of telescopes in member countries and creating a regional data network.

☞ BRICS

- BRICS is an **acronym for** the grouping of the world's leading emerging economies, namely **Brazil**, **Russia**, **India**, **China** and **South Africa**.
- In 2001, the British Economist **Jim O'Neill coined the term BRIC** to describe the four emerging economies of Brazil, Russia, India, and China.
- BRICS does **not exist in the form of organization**, but it is an **annual summit** between the supreme leaders of five nations.
- Chairmanship ➔ The Chairmanship of the forum is **rotated annually among the members**, in accordance with the acronym B-R-I-C-S.
- Recent Summits ➔ The **2020 BRICS summit** was the **twelfth annual BRICS summit**. It was **hosted by Russia**. The theme was "**Global Stability**, **Shared Security and Innovative Growth**".
- BRICS 2021 ➔ The **chair of BRICS 2021** is in **India**. It will be the third time that India will be hosting the BRICS Summit after 2012 and 2016.
    - The theme of the Summit is, '**BRICS @ 15**: **Intra-BRICS Cooperation for Continuity**, **Consolidation**, and **Consensus**.'

10. 17+1 Project

Why in News?

- Lithuania has quit China's 17+1 cooperation forum with central and eastern European states that includes other EU members.

About 17+1 Project

- The 17+1 initiative is a **China-led format** founded in **2012 in Budapest**.
- Aim ➔ to **expand cooperation between Beijing and the Central and Eastern European** (CEE) **member countries**, with investments and trade for the development of the CEE region.
- The framework also **focuses on infrastructure projects** such as bridges, motorways, railway lines and modernisation of ports in the member states.
- The platform is largely seen as an **extension** of **China's flagship Belt and Road initiative** (BRI).

- China's narrative towards the 17+1 initiative is about **improving its relations with the European countries** that are less developed as compared to the Western European states.
- Composition ➔ The initiative includes twelve EU member states and five Balkan states — **Albania**, **Bosnia** and **Herzegovina**, **Bulgaria**, **Croatia**, **Czech Republic**, **Estonia**, **Greece**, **Hungary**, **Latvia**, **Lithuania**, **Macedonia**, **Montenegro**, **Poland**, **Romania**, **Serbia**, **Slovakia** and **Slovenia**.

11. World Health Assembly

Why in News?

- As the Chairman of WHO Executive Board, Union Minister for Health and Family Welfare of India has virtually chaired the 74th World Health Assembly.

About

- The World Health Assembly is the **decision-making body** of the World Health Organisation (**WHO**).
- The Health Assembly is **held annually in Geneva, Switzerland**. It is attended by delegations from all WHO Member States. The assembly focuses on a **specific health agenda** prepared by the Executive Board.
- Functions ➔ The main functions of the World Health Assembly are:
    - To **determine the policies** of the Organisation
    - To **appoint the Director-General**
    - To **supervise financial policies**, and review and approve the proposed programme budget.

About WHO Executive Board:

- WHO Executive Board is composed of **34 members technically qualified** in the field of health. The members of the executive board will be **elected for three-year terms**.
- Functions ➔ To **give effect to the decisions** and **policies** of the World Health Assembly. Further, the board will **advise** and generally facilitate the work of the Assembly.
- Chairman ➔ It is held in **rotation for one year** by each of the **WHO's six regional groups**. This includes the African Region, Region of the Americas, South-East Asia Region, European Region, Eastern Mediterranean Region and Western Pacific Region.
- Meeting ➔ The Board **meets at least twice a year**, once usually in January and then in May.

12. UN Human Rights Council

Why in News?

- Member states of the Organization of Islamic Cooperation (OIC) are calling on the UN Human Rights Council (UNHRC) to set up a permanent commission to report on human rights violations in Israel, Gaza and the West Bank.

About UNHRC

- An **inter-governmental body** within the United Nations system responsible for **strengthening the promotion and protection of human rights** around the world.
- Formation ➔ The Council was **created by** the United Nations General Assembly (**UNGA**) **in 2006**. It replaced the former United Nations Commission on Human Rights.

- The Office of the High Commissioner for Human Rights (**OHCHR**) **serves as the Secretariat** of the Human Rights Council.
- OHCHR is headquartered in **Geneva, Switzerland**.
- Composition ➔
    - The UNHRC has **47 members** serving at any time with elections held to fill up seats every year, based on allocations to regions across the world to ensure geographical representation.
        - Each elected member serves for a **term of three years**.
        - Countries are **disallowed** from occupying a seat for **more than two consecutive terms**.
- Functions ➔ The UNHRC passes **non-binding resolutions** on human rights issues through a periodic review of all 193 UN member states called the Universal Periodic Review (UPR).
- It **oversees expert investigation** of violations in specific countries (Special Procedures).

13. UAE's Golden Visa

Why in News?

- Bollywood actor Sanjay Dutt recently received his Golden visa from the UAE government.

About UAE's Golden Visa

- In 2019, the United Arab Emirates (UAE) implemented a **new system for long-term residence visas**, thereby enabling foreigners to **live**, **work** and **study in the UAE** without the need of a national sponsor and with 100 per cent ownership of their business.
- So, what does the Golden Visa offer? ➔ The Golden Visa system essentially **offers long-term residency** (5 and 10 years) to people belonging to the following groups:
    - investors, entrepreneurs, individuals with outstanding talents the likes of researchers, medical professionals and those within the scientific and knowledge fields, and remarkable students.

- Benefits ➔ The main benefit of the visa will be security as through the issuance of the Golden Visa, the UAE government has made it clear that they are committed to **providing expatriates**, **investors** and **essentially everyone looking to make the UAE their home an extra reason** to **feel secure about their future**.

14.Non-Aligned Movement

Why in News?

- Union Minister for Health and Family Welfare virtually participated in a meeting with Ministers of Health of the NAM (Non-Aligned Movement) Countries.

About

- The Non-Aligned Movement (NAM) is a forum of **120 developing world states** that are **not formally aligned** with or against any major power bloc.

- After the United Nations, it is the **largest grouping of states worldwide**.
- The movement **originated in the 1950s** as an effort by some countries to **avoid the polarized world** of the Cold War between Communist and Capitalist states.
- Purpose ➔ To ensure "**the national independence**, **sovereignty**, **territorial integrity** and **security of non-aligned countries**" in their "struggle against imperialism, colonialism, neo-colonialism, racism, and all forms of foreign aggression, occupation, domination, interference or hegemony as well as against great power and bloc politics".
- Drawing on the principles agreed at the **Bandung Conference in 1955**, the Non-Aligned Movement was **established in 1961 in Belgrade**, **Yugoslavia** through an initiative of the Indian Prime Minister Jawaharlal Nehru, Ghanaian President, Indonesian President, Egyptian President and Yugoslav President.
- **Five principles** that serve as the basis of the Non-Aligned Movement are
    1. Mutual respect for each other's territorial integrity and sovereignty.
    2. Mutual non-aggression.
    3. Mutual non-interference in domestic affairs.
    4. Equality and mutual benefit.
    5. Peaceful co-existence.
- Role and Activities of the Non-Alignment Movement ➔
    - It **provided a platform for newly independent** developing nations to join together to protect this autonomy.
    - It has played a **useful role** in the **common cause of World peace and prosperity**.

Society

1. Global Report on Food Crises 2021

Why in News?

- Global Network Against Food Crises(GNAFC) has released the "Global Report on Food Crises 2021".

About

- The report focuses on **55 countries** that account for **97% of the humanitarian assistance**.
- Also, the report **depicts the acute food insecurity and malnutrition situation** in countries chronically vulnerable to food crises. These countries often affected by fragile agri-food systems.

👉 Key Findings

- **More than 155 million** people experienced **acute food insecurity** in **2020**. This is an increase of 20 million as compared to 2019.
- **Two-thirds** of the people in **acute food crisis levels** were **in 10 countries**. Such as Congo, Yemen, Afghanistan, Syria, Sudan, northern Nigeria, Ethiopia, South Sudan, Zimbabwe and Haiti.
- The majority of the people facing acute food insecurity **depend on agriculture**.

👉 Global Network Against Food Crises(GNAFC)

- It was founded during the **first World Humanitarian Summit** in **2016**. It was **jointly found by**
  - European Commission for International Cooperation and Development,
  - Food and Agriculture Organization of the United Nations (FAO) and
  - The World Food Programme (WFP).
- Purpose: It is an alliance united by a **common commitment** to **tackle the root causes of food crises**. They aim to tackle the food crisis through increased **sharing of knowledge** and **analysis and strengthened coordination**.

2. Unique Disability ID (UDID)

Why in News?

- The Department of Empowerment of Persons with Disabilities (DEPwD), Government of India has made it mandatory for all States/UTs to grant certificate of disability through online mode only using UDID portal w.e.f. 01.06.2021.

About

- The Central Government notified the **Rights of Persons with Disabilities Rules, 2017** under RPwD Act, 2016 on 15.06.2017.
- **Rule 18(5) mandates** the Central Government to appoint a date making it **mandatory for the State/UT authorities** to **issue certificate** of disability through **online mode**.

👉 About UDID Portal

- Unique ID for Persons with Disabilities(UDID) project is an **initiative of the DEPwD**. The project has been **under implementation since 2016**.
- Aim ➔ To build a **holistic end-to-end integrated system** for Issuance of Universal ID & Disability Certificates for Persons with Disabilities. This ID will contain **their identification** and **disability details**.
- Vision ➔ The UDID project aims to **create** a **National Database for PwDs**. Further, it aims to issue a **Unique Disability Identity Card** (UDID) to each person with disabilities.
- Benefits of UDID Portal ➔
    - Persons with disabilities will **not need to make/maintain/carry multiple copies of documents**. Further, the UDID card will capture all the necessary details.
    - The UDID card will be the **single document of identification**, **verification** of the disabled for availing various benefits in future.
    - Also, The UDID Card will help in **streamlining the tracking of the physical and financial progress** of beneficiaries. The government can even track progress at all levels of the hierarchy of implementation(from village level, District level, State level and National level).

3. SAMVEDNA

Why in News?

- A Toll-Free Helpline launched to provide psycho-social mental support for Children affected during COVID 19 Pandemic.

About

- What is it? ➔ Sensitizing Action on Mental Health Vulnerability through Emotional Development and Necessary Acceptance (SAMVEDNA) is a **Toll-Free Helpline for Children**.
- Launched by ➔ the **National Commission for Protection of Child Rights** (**NCPCR**)
- Purpose ➔ To provide **psycho-social first-aid** and **mental support** for Children affected during COVID 19 Pandemic.
- It is provided on a **toll-free No: 1800-121-2830** from Monday to Saturday from 10 a.m. to 1 p.m. and 3 p.m. to 8 p.m. in various regional languages.
- Tele counselling is provided to the children under three categories ➔
    - Children who are in **Quarantine/isolation/COVID Care centers**.
    - Children who have **COVID positive parents** or **family members** and near ones.
    - Children who have **lost their parents** due to Covid-19 Pandemic.

👉 National Commission for Protection of Child Rights

- Formation ➔ It is a **statutory body** set up in **2007** under the Commissions for Protection of Child Rights (CPCR) Act, 2005.
- Ministry ➔ It works under the aegis of **Ministry of Women and Child Development**, Govt. of India.
- Under the NCPCR, the Child is defined as a person **in the 0 to 18 years age group**.
- Mandate ➔ To **ensure** that **all Laws**, **Policies**, **Programmes**, and **Administrative Mechanisms** are in consonance with the Child Rights perspective as enshrined in,
    - The Constitution of India and

- The UN Convention on the Rights of the Child.

- Working ➔
  - It **inquires into complaints** relating to a **child's right** to free and compulsory education under the Right to Education Act, 2009.
  - It monitors the **implementation** of Protection of Children from Sexual Offences (**POCSO**) **Act**, **2012**.

4. PM Swasthya Suraksha Yojana

Why in News?

- Setting up of 22 new regional AIIMS (All India Institute of Medical Sciences) has been approved under the Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) so far.

About

- Background ➔ PMSSY was announced in **2003**.
- Objective ➔ objectives of **correcting regional imbalances** in the availability of **affordable/ reliable tertiary healthcare services** and also to augment facilities for quality medical education in the country.
- Nodal Ministry ➔ The PMSSY is implemented by the **Ministry of Health and Family Welfare**.
- It has two components ➔
  - Setting up **new AIIMS** (All India Institute of Medical Sciences).
  - **Upgradation** of government medical colleges in various states.
- The project cost for upgradation of each medical college institution is **shared by the Centre and the state**.

👉 **Other Initiatives Related to Healthcare Sector:**

- **Pradhan Mantri Swasthya Suraksha Nidhi (PMSSN) ➔**
  - A **single non-lapsable reserve fund** for Health from the proceeds of Health and Education Cess.
- **PM Atmanirbhar Swasth Bharat Scheme ➔**
  - Announced in the **Union Budget 2021-22**.
  - Aims to **develop capacities of primary**, **secondary**, and **tertiary care health systems** even in the last miles of the nation, and developing a modern ecosystem for research, testing and treatment in the country itself.
- **National Digital Health Mission (NDHM) ➔** The NDHM is a **complete digital health ecosystem** with four key features — health ID, personal health records, Digi Doctor and health facility registry

5. CBID (Community Based Inclusive Development) programme

Why in News?

- The Union Minister of Social Justice & Empowerment has virtually launched a 6-month CBID (Community Based Inclusive Development) Program on rehabilitation of Divyangjan(Persons with Disabilities).

About

- Developed by ➔ The programme has been co-designed by the **Rehabilitation Council of India** and the **University of Melbourne**.

- Aim ➔ The programme aims to create a **pool of Grassroot rehabilitation workers** at the community level. These workers will be trained for successfully discharging their duties.
- After training, the workers can then **work alongside the ASHA** and **Anganwadi workers**. They can **handle cross-disability issues** and **facilitate the inclusion of persons with disabilities** in society. The workers will be called 'Divyang Mitra' i.e. friends of persons with disabilities.
- Nodal Body ➔ **National Board of Examination in Rehabilitation** under the Rehabilitation Council of India will conduct examinations. The board will also **award certificates** to pass-out candidates.

👉 Rehabilitation Council of India(RCI)

- RCI was initially set up as a **registered society in 1986**. In **1992**, the Rehabilitation Council of India Act was enacted by Parliament, and it became a **Statutory Body in 1993**.
- Mandate ➔
    - To **develop**, **standardize** and **regulate training programmes**/ **courses** at various levels in the field of Rehabilitation and Special Education.
    - To **maintain** the **Central Rehabilitation Register for qualified Professionals**/ **Personnel** and **promote Research** in Special Education.
    - It will also take **punitive action** against unqualified persons delivering services to persons with disability.

6. Eklavya Model Residential Schools

Why in News?

- The Ministry of Tribal Affairs(MTA) has signed a Memorandum of Understanding (MOU) with Microsoft. The MOU aims to support the digital transformation of Tribal schools such as Eklavya Model Residential Schools(EMRS).

About EMRS

- What is it? ➔ It is a Government of India scheme for **model residential schools for Scheduled Tribes** across India.
- Nodal Ministry ➔ The scheme was launched by the **Ministry of Tribal Affairs** in the year **1997-98**.
- Aim ➔ To impart **quality education to ST children** in **remote areas**. It will also enable them to avail themselves of opportunities in high and professional educational courses and get employment in various sectors.
    - The schools focus not only on academic education but on the **all-around development** of the students.
- Grants ➔ The government of India **provides grants** for the construction of schools and recurring expenses to the State Governments **under Article 275 (1) of the Constitution**.
- Target ➔ Every **block** with **more than 50% ST population** and at least **20,000 tribal persons**, will have an Eklavya Model Residential School by the year 2022.
- Significance ➔ The schools will be on par with **Navodaya Vidyalayas**. It will have **special facilities for preserving local art and culture** besides providing training in sports and skill development.

👉 Eklavya Model Day Boarding Schools (EMDBS)

- Eklavya Model Day Boarding School(EMDBS) is being set up wherever the **density of ST population** is **higher** in identified Sub-Districts (90% or more).

- Objective ➔ These schools will be set up for providing **additional scope for ST Students** seeking to **avail school education** without residential facility.

About the MoU for Digital Transformation of Tribal Schools

- As part of the MoU, Microsoft will make **Artificial Intelligence(AI) curriculum**. This will be available to tribal students in both English and Hindi at all EMRS schools.
- **Teachers** across the states will also be **trained in a phased manner** for using productivity technologies like Office 365 and AI applications in teaching.

7. One Stop Centres (OSCs) in Foreign Countries

Why in News?

- The Ministry of Women and Child Development has decided to set up One Stop Centres (OSCs) in foreign countries. These centers will provide assistance to Indian women who are survivors of gender-based violence.

About One Stop Centres (OSCs) in Foreign Countries

- One-Stop Centres (OSCs) will be **set up at the ten foreign missions** of India.
- Purpose ➔ They are aimed at **helping women overseas** who are victims of violence in public and private spaces.
- They can approach the centres **for immediate as well as non-immediate support** including legal aid, medical support, and counseling.
- The 10 countries where the OSCs will be set up are **Bahrain**, **Kuwait**, **Qatar**, **Oman**, **UAE**, **Jeddah**, and **Riyadh in Saudi Arabia**, **Australia**, **Canada**, and **Singapore**.
- Ministry ➔ These centres will be **supported by the Women and Child Development Ministry** and **operated by the External Affairs Ministry**.

About One Stop Centre (OSC) Scheme:

- One-Stop Centre Scheme was **launched in 2015** by the **Ministry of Women and Child Development**.
- It is a **Centrally Sponsored Scheme**.
- Objective ➔
    - The scheme provides **integrated support and assistance to women affected by violence**, both in private and public spaces under one roof.
    - To **facilitate a range of services** including medical, legal, psychological, and counseling support under one roof to fight against any forms of violence against women.
- Target Group ➔ The OSC will **support all women** including girls below 18 years of age affected by violence, irrespective of caste, class, religion, region, sexual orientation, or marital status.
- Nodal Scheme ➔ OSC is a subscheme of **Umbrella Scheme for National Mission for Empowerment of women** including Indira Gandhi Mattritav Sahyaog Yojana.

8. Section 304-B

Why in News?

- Scope of Section 304-B of IPC in dowry deaths widened by Supreme Court (SC).

About

- History ➔ Section 304-B was inserted into the Indian Penal Code(IPC) in **November 1986**.
- According to this section, to make out a case of dowry death ➔
    - A woman should have **died of burns** or **other bodily injuries** or "**otherwise than under normal circumstances**" within seven years of her marriage.
    - A woman should have **suffered cruelty** or **harassment** from her husband or in-laws "**soon before her death**" in connection with the demand for dowry.
- Punishment ➔ The section punishes convicts with a **minimum of seven years imprisonment** extendable up to a life term.

☞ Supreme Court Guidelines on Section 304-B:

- **Avoid Absurd Interpretation ➔**
    - Over the years, the courts had **interpreted the phrase 'soon before'** in Section 304-B as '**immediately before**'. This interpretation makes it necessary for a woman to have been **harassed moments before she died**.
    - On the other hand, the Supreme Court recently said that the prosecution needs to **show only a** "**proximate and live link**" **between the harassment and her death** to make out a case of dowry death.
- **Need broader Reading of the Provision ➔**
    - The lower courts should **not take a limited approach** in categorising death as homicidal or suicidal or accidental. The phrase "**otherwise than under normal circumstances**" in Section 304-B calls for a **liberal interpretation** of the provision, not the stricter one.
    - Hence, Section 304-B **not imply the narrow categorisation** of death as homicidal or suicidal or accidental. Instead, it also includes **non-categorised deaths** '**other than under normal circumstances**.
- **Proper examination of Accused ➔**
    - The Supreme Court also raised concern about the **casual way** in which **trial courts examine accused persons** in dowry death cases under Section 313 of the Code of Criminal Procedure.
    - The court said that the examination of the accused about the **incriminatory material against him** should be **done fairly**.
    - The court must put **incriminating circumstances before the accused** and **seek his response**. The accused should also be given sufficient opportunity to give his side of the story.

9. Mid-Day Meal scheme

Why in News?

- The Centre has decided to give about ₹100 each to children studying in Class 1 to Class 8 in government schools, who are beneficiaries of the Mid Day Meal scheme.

About Mid-Day Meal scheme

- The scheme **guarantees one meal to all children** in government and aided schools and madarsas supported under Samagra Shiksha.
- Students **up to Class VIII** are guaranteed **one nutritional cooked meal** at least 200 days in a year.

- The Scheme comes under the **Ministry of HRD**.
- It was launched in the **year 1995** as the National Programme of Nutritional Support to Primary Education (**NP – NSPE**), a **centrally sponsored scheme**. In 2004, the scheme was relaunched as the Mid Day Meal Scheme.
- The Scheme is also **covered by the National Food Security Act, 2013**.
- Objective ➔ **Address hunger and malnutrition**, **increase enrolment** and **attendance in school**, improve socialisation among castes, provide employment at grassroot level especially to women.
- The MDM rules 2015, provide that:
    - The place of serving meals to the children shall be **school only**.
    - If the Mid-Day Meal is **not provided** in school on any school day due to non-availability of food grains or any other reason, the State Government shall **pay food security allowance** by 15th of the succeeding month.
    - The **School Management Committee** mandated under the Right to Free and Compulsory Education Act, 2009 shall also **monitor implementation** of the Mid-day meal Scheme.
- Nutritional Standards ➔ Cooked meal having nutritional standards of **450 calories** and **12 gm of protein for primary (I-V class**) and **700 calories and 20 gm protein** for **upper primary (VI-VIII class**).

10. Women and Men in India Report, 2020

Why in News?

- The National Statistical Office released the Women and Men in India report, 2020.

About National Statistical Office (NSO)

- NSO is the statistics **wing of Ministry of Statistics and Programme Implementation** (MoSPI) and consists of the Central Statistical Office (CSO), the Computer center and **the National Sample Survey Office** (NSSO).
- MoSPI has two wings, one relating to **Statistics** and the other **Programme Implementation**.
- NSO acts as the **nodal agency** for planned development of the statistical system in the country and lays down and maintains **norms and standards** in the field of statistics.

Findings of the report:

Population related statistics	• India's **projected population in 2021 is 136.13 Crore with 48.65% female population**. • The projected **sex ratio** is likely to increase from 943 in 2011 to **948 in 2021**. • Sex ratio at birth was **899 in 2016-18 against 896 in 2015-17**. (Higher in rural areas than urban). • Women's **mean age at marriage at all India level in 2018 is 22.3 years** which showed an increase of 0.2 years from 2017.
Health Statistics	• **Infant Mortality Rate (IMR)** has **decreased** from 39 in 2014 to **32 in 2018**. • **Maternal Mortality Ratio (MMR) decreased** from 212 in 2007-09 to **113 in 2016-18.** • **Total Fertility Rate (TFR)** for literate population of rural India was observed at **2.3 as compared to1.7 in urban areas**.
Education	• At all India level, the **literacy rate has increased from 73 in 2011 to 77.7 in 2017** (female and male literacy rate at 70.3 and 84.7 respectively). • Only **3.1 % females and 4.5 % males** were pursuing **technical/professional courses**.
Participation in Economy	• In rural sector, **Worker Population Ratio (WPR) was 19.0 for females and 52.1 for males.** ○ In **Urban sector**, the ratio is 14.5 for females and 52.7 for males. • Majority of the females (59.6%) and males (57.4%) workers were **self-employed** in rural area. • In urban sector, 54.7% females and 47.2% males were **regular wage/salaried employee**. • **Casual labour** among the female workers and male workers were **higher in rural area as compared to urban.** • On an average **134 minutes were spent in a day by females** for **"Unpaid care giving services for household members"** against 76 minutes spent by males on the same activity.
Participation in Decision Making	• Percentage of female electors participating in General Elections went up **from 65.6% in Sixteenth to 67.2% in Seventeenth Lok Sabha Elections.** • There is an **upward trend in the number of female candidates contested as well as elected** from 14th to 17th Lok Sabha General Election.
Impediments in Empowerment	• In 2019, three major crimes viz. **Cruelty by Husband and Relatives (31%), Assault on women with intent to outrage her modesty and Kidnapping & Abduction** constituted 71% of the total crime committed against women. • Percentage **of differently-abled persons** was 1.9% for females and 2.4% for males.

Security

1. P-8I Patrol Aircraft

Why in News?

- Recently, the Biden Administration has notified the Congress of its determination to sell six P-8I patrol aircraft to India for an estimated cost of USD 2.42 billion.

About

- It is a **long-range**, **multi-mission maritime patrol aircraft** offered by Boeing for the Indian Navy.
- It **replaced** the ageing fleet of the Indian Navy's **Tupolev Tu-142 aircraft**.
- The P-8I aircraft is a **variant of the P-8A Poseidon multi-mission maritime aircraft** (MMA) operated by the US Navy.
- The aircraft is equipped with a **CAE AN/ASQ-508A magnetic anomaly detection (MAD) system**, **APS-143C (V) 3 multimode radar** and a global version of the Raytheon APY-10 surveillance radar.
- The APY-10 radar provides **precise information in all-weather**, **day** and **night missions**.
- The P-8I aircraft can **fly** at a **maximum speed of 789km/h** and can reach a **maximum altitude** of **12,496m**.

Significance of P-8I Patrol Aircraft for India

- It will allow the Indian Navy to **expand its maritime surveillance aircraft** (MSA) capability for the next 30 years.
- India will have **no difficulty absorbing** these aircraft into its armed forces.
- The proposed sale of this equipment and support will **not alter the basic military balance** in the region.
- It can conduct **anti-submarine warfare** (ASW), **anti-surface warfare** (AsuW), **intelligence**, **maritime patrol**, and **surveillance and reconnaissance missions**.

2. Iron Dome Air Defence System: Israel

Why in News?

- Israel used its Iron Dome air defence system in recent violent clashes over Jerusalem.

About

- What is it? ➔ Iron Dome is a **short-range**, **ground-to-air**, **air defence system**.
- Developed by ➔ Israeli manufacturer **Rafael Advanced Defense Systems** with support from the United States and was deployed in 2011.
- Purpose ➔ It is used for **countering rockets**, **artillery & mortars** (C-RAM). It will also **counter aircraft**, helicopters and unmanned aerial vehicles fired from distances of up to 70 kilometres.
- How does Iron Dome work? ➔ The Iron Dome has **three main systems**. These systems will **work together to provide a shield** over the area where it is deployed, handling multiple threats:
    - Radar → It has a **detection and tracking radar** to spot any incoming threats.
    - Weapon Control → It has a **battle management and weapon control system** (BMC),
    - Missile Fire → It also has a **missile firing unit**. The BMC basically **liaises** between the radar and the interceptor missile.

- Other key Features of Iron Dome ➔
    - The missile is capable of being used in **all weather conditions**, including during the day and night.
    - Israel claims the system has **stopped thousands of enemy** launches from hitting targets, with a **success rate of more than 90%.**

👉 S-400 TRIUMF

- India has S-400 TRIUMF, which also **caters to the three threats** (rockets, missiles and cruise missiles). But they have **much longer range**.
- It has a **much larger air defence bubble** to knock off threats.
- It is a **mobile**, **surface-to-air missile system** (SAM) **designed by Russia**.
- Range & Effectiveness ➔
    - The system can engage **all types of aerial targets** within the range of **400km**, at an altitude of up to 30km.
    - The system can **track 100 airborne targets** and engage six of them simultaneously.

3. Goa Maritime Symposium (GMS) – 2021

Why in News?

- Recently, the Indian Navy hosted Goa Maritime Symposium (GMS) – 2021 under the aegis of Naval War College, Goa.

About

- Held by ➔ **Indian Navy** under the aegis of **Naval War College, Goa**.
- Participating members ➔ Naval representatives from **13 Indian Ocean Littoral countries**, which included India, Bangladesh, Comoros, Indonesia, Madagascar, Malaysia, Maldives, Mauritius, Myanmar, Seychelles, Singapore, Sri Lanka and Thailand.
- Theme ➔ **Maritime Security and Emerging Non-Traditional Threats**: A Case for Proactive Role for IOR Navies.
- Objective ➔ **Capacity building amongst the Indian Ocean Region** (IOR) Navies to tackle emerging common maritime threats.

👉 Indian Ocean Region (IOR):

- The Indian Ocean region is **one of growing geopolitical importance** and is characterized by competition and intense rivalries involving both littoral states and external powers.
- The Indian Ocean is the **world's third-largest ocean** and constitutes about **20 percent** of the **water on the Earth's surface**.
- It is bounded on the west by **East Africa**, on the north by **India**, on the east by **Australia**, and on the south by the **Southern Ocean off the coast of Antarctica**.

4. INS Rajput

Why in News?

- Recently, the Ministry of Defence has announced that the INS Rajput will be decommissioned after 41 years of service.

About

- INS Rajput was a **guided-missile destroyer** and the lead ship of the Rajput class of the Indian Navy.
- Built by ➔ the erstwhile USSR (now Russia).
- History ➔ The missile destroyer was commissioned in the Indian Navy in **1980**. It was also the **first destroyer of the Indian Navy**.
- Purpose ➔ The ship is capable of **attacking land targets** as well as **fulfilling anti-aircraft and anti-submarine roles** as a task force or carrier escort.
- The destroyer ship participated in several important missions over the years including ➔
    - **Operation Aman** off the coast of Sri Lanka to assist the Indian Peace Keeping Force during Srilankan Civil War
    - **Operation Pawan** for patrolling duties off the coast of Sri Lanka
    - **Operation Cactus** to resolve hostage situation of the Maldives and
    - **Operation Crowsnest** off Lakshadweep.

5. Guantanamo Bay detention camp

Why in News?

- The administration of US President Joe Biden declared its intention to shut down the Guantanamo Bay detention camp.

About

- What is it? ➔ The Guantanamo Bay detention camp is a **United States military prison**.
- Location ➔ It is located within **Guantanamo Bay Naval Base**, also referred to as Guantánamo, GTMO, and "Gitmo", on the **coast of Guantánamo Bay in Cuba**.
- As of January 2021, 731 of the 780 people detained were transferred, 40 remain and 9 died while in custody.
- History ➔ The camp was established by **US President George W. Bush's administration in 2002** during the **War on Terror** following the September 11, 2001 attacks.
- **Indefinite detention without trial** as well as torture led the operations of this camp to be considered a **major breach of human rights** by Amnesty International.

History and Culture

1. Karen rebels

Why in News?

- Myanmar's military has launched air strikes on a village and outpost near the Thai border, after ethnic minority Karen insurgents attacked a Myanmar army post in some of the worst clashes since a Feb. 1 coup.

About

- Who are the KNU? ➔ The KNU is the **dominant political organisation** representing ethnic minority **Karen communities in Karen**, or **Kayin**, **State**, **bordering Thailand**.
- Its aim is **self-determination** for the Karen people in a region of about **1.6 million people**, roughly the **size of Belgium**, where they are the ethnic majority in the state.

Karen Conflict

- Marginalised in then Burma's post-independence political process, the KNU started a **rebellion in 1949**, which it waged for **nearly 70 years**. One of its key grievances was the **majority Bamar community's dominance** of **Myanmar's state and military**.
- The conflict has been described as one of the world's "**longest running civil wars**".
- What's the demand? ➔ Karen nationalists have been **fighting for an independent state** known as **Kawthoolei since 1949**.

2. Guru Tegh Bahadur

Why in News?

- Prime Minister Modi has bowed to Sri Guru Teg Bahadur Ji on his 400th Parkash Purab.

About

- Guru Tegh Bahadur (1621 – 1675) was the **ninth of ten Gurus** of the Sikh religion.
- Name ➔ He was born as **Tyaga Mal**. He came to be known by the name Teg Bahadur (Mighty of The Sword), **given to him by Guru Hargobind** after he shown his valour in a battle against the Mughals.
- Family ➔ His **father** was the Sixth guru, **Guru Hargobind**. His **son Guru Gobind Singh**, became the tenth Sikh guru.
- Life and works ➔
    - He built the **city of Anandpur Sahib** (in Rupnagar/Ropar district, on the edge of Shivalik Hills, near the Sutlej River, in Punjab). Here the last two Sikh Gurus lived and where **Guru Gobind Singh Ji founded the Khalsa Panth** in 1699.
    - He contributed **more than 100 poetic hymns** to **Granth Sahib** which cover various topics, such as the nature of God, human attachments, body, mind, dignity service etc.
    - He resisted the **forced conversions of Kashmiri Pandits** and **non-Muslims to Islam**.

- Martyrdom ➔
  - He was publicly **beheaded in 1675** on the **orders of Mughal emperor Aurangzeb** in Delhi for himself refusing to convert to Islam. He is remembered for giving up his life for freedom of religion.
  - His martyrdom is remembered as the **Shaheedi Divas of Guru Tegh Bahadur** every year on **24 November**, according to the Nanakshahi calendar released by the Shiromani Gurdwara Parbandhak Committee in 2003.
- Memorials in Delhi ➔
  - **Gurudwara Sis Ganj Sahib** mark the place of his execution.
  - **Gurdwara Rakab Ganj Sahib** mark the places of cremation of his body.

3. Lag B'Omer Festival

Why in News?

- Recently, at least 44 people were crushed to death in a stampede as tens of thousands of ultra-Orthodox Jews gathered in northern Israel to celebrate the annual Lag B'Omer festival.

About

- It is an **annual Jewish festival** observed during the **Hebrew month of Iyar**.
- It is celebrated on the **33rd day of the Omer**, the 49-day period between Passover and Shavuot.
- Lag B'Omer is the **only day** during the 49-day period when **celebration is permitted**.
- Tens of thousands of **ultra-Orthodox Jewish pilgrims** make their **way to the base of Mount Meron** every year to mark the occasion.
- The pilgrims aims to pay their **respects to Rabbi Shimon Bar Yochai**, a second century sage and mystic, who is believed to have died on this day.

Who was Rabbi Shimon?

- Rabbi Shimon was said to have been a **gifted Talmudic scholar** and a **disciple of Rabbi Akiva**, one of the **greatest Jewish sages** of all time.
- According to some accounts, Rabbi Shimon authored the '**Zohar**', which is the **main work of Kabbalah**, or **Jewish mysticism**.
- Jews believe that on the day of his death, Rabbi Shimon told his disciples the **many secrets of the Kabbalah**, which some believe is **how Lag B'Omer became a day of celebration**.

4. Putola Nach

Why in News?

- Recently, the COVID-19 pandemic has provided an Assam-based trust the opportunity to focus on a near-forgotten form of string puppetry called Putola Nach.

About

- Putola Nach is **string puppetry of Assam**. '**Putul'** is a word that describes both **a doll and a puppet in Bengali** while the word '**Naach' means Dance**.
- Types ➔ The puppetry is performed in **three areas** with distinct characteristics. These areas are:
    - The First area – Lower Assam: Here this puppetry form is known as **Putala-Bhoariya** and influenced by the popular **folk form Bhoariya**.
    - The second area – Majuli island (Upper Assam): Here **small wooden puppets** are used in the **style of the Ankia Naat**. (Anika Naat is an act developed by Sankaradev).
    - The third area is North Assam: Here the puppeteers use **Bangla**, **Assamese and Karbi songs** in their performances. These are largely borrowed from the **mobile theatre of Assam** (Bhraymaman).
- Episodes ➔ The puppetry includes the **episodes of the Ramayana**, as well as scenes from the Mahabharata.
- Further, the puppeteers also **add dialogues** or **chants** taken from bhaona (the local traditional theatre of Assam).

👉 String Puppetry

- India has a **rich and ancient tradition** of string puppets also known as **marionettes**.
- The puppets in this form have **jointed limbs**, **controlled by strings** allowing for **more flexibility**. This greater ability to control makes them the most articulate of all the puppets but also the most challenging.
- Types of String Puppetry ➔
    - **Kathputli** – Rajasthan
    - **Kundhei** — Odisha
    - **Gombeyatta** — Karnataka
    - **Bommalattam** — Tamil Nadu.

5. Pulayar Community

Why in News?

- Two Tribal settlements (Kattupatti and Kuzhipatti) of Pulayar community within the limits of Anamalai Tiger Reserve in Tamil Nadu are gearing up for their annual festival of local deity Vairapattan.

About Pulayar Community

- The Pulayar (also Pulaya, Pulayas, Holeya or Cheramar) are one of the **main social groups found in Kerala**, **Karnataka** and **Tamil Nadu**.
- The 1976 Government of India Gazette notified them as **Scheduled Caste** (SC).
- Pulayas are noted for their **music**, **craftsmanship**, and **for certain dances** which include,
    - **Kōlam-thullal**, a **mask dance** which is part of their exorcism rituals, and
    - **Mudi-āttam** or **hair-dance** which has its origins in a fertility ritual.
- Mahatma Ayyankali was called as **Pulaya King**.
    - Ayyankali in 1893 rode an ox-cart **challenging the 'ban' on untouchables** from **accessing public roads** by caste-Hindus.
    - Ayyankali became a stated protestor for **Pulayar rights**. Because of the protests **led through Ayyankali**, in 1907 a decree was **issued to confess students** from the **untouchable network to government schools**.

👉 Anamalai Tiger Reserve

- Location ➔ It is one of the four Tiger Reserves in **Tamil Nadu**. It **forms part of the Southern Western Ghats**.
- It forms **part of the Anamalai Parambikulam Elephant Reserve** declared in 2003.
- Surrounded by ➔ **Parambikulam Tiger Reserve** on the East, **Chinnar Wildlife Sanctuary** and **Eravikulam National Park** on the South Western side (all belong to Kerala).
- Tribes ➔ The tribes are the **Kadars**, **Malasars**, **Malaimalasar**, **Pulaiyars**, **Muduvars** and the **Eravallan** (Eravalar).
- Flora ➔ It includes **wet evergreen forest** and **semi-evergreen forest**, montane shola-grassland, moist deciduous, dry deciduous, thorn forests and marshes.
- Fauna ➔ The important mammals include: **Asiatic elephant**, **Sambar**, **Spotted deer**, **Barking deer**, **Mouse deer**, **Gaur**, **Nilgiri tahr**, **Tiger**, etc.

Other Protected Areas in Tamil Nadu:

- Mudumalai Tiger Reserve
- Kalakkad - Mundanthurai TR
- Sathyamangalam TR
- Nilgiri Biosphere Reserve
- Mukurthi National Park
- Gulf of Mannar Marine National Park
- Guindy National Park.

6. ID-Art App

Why in News?

- INTERPOL has launched an app called 'ID-Art' to better protect cultural heritage.

About

- Aim ➔ 'ID-Art' App aims to **help identify the stolen cultural property**, **reduce smuggling**.
- The app also increases the **possibility of recovering stolen** works and artefacts.

👉 Key Features of the App

- INTERPOL's database ➔ The app enables users to get **mobile access to the Interpol database** of **stolen works of art**. Further, the user can be a law enforcement agency or a general public
- Create an inventory ➔ The app allows museums and private collectors to **capture images and record features** of their works of art on the App. This will also help to **keep track of their collections**.
- Stolen Works of Art Database ➔ **More than 52,000 items registered** as stolen in Interpol's "**Stolen Works of Art**" database. The app allows users to **immediately cross-check** an object among the database.
- Document Heritage Sites ➔ The app allows persons on the front line of protecting heritage **to document the state of heritage sites**. They can document also the historical monuments and archaeological sites.
- Record Geographical Location of a Heritage Site ➔ The 'ID-Art' app enables users to **record the geographical location**, a **detailed description** and **images** in order to capture the condition of a heritage site. This will result

in the creation of '**Site Cards**'. These 'site cards' can be **used as evidence** or **basis for reconstruction** if ever the site is looted or destroyed.

👉 Interpol

- The International Criminal Police Organisation, or Interpol, is a **194-member intergovernmental organisation**.
- Headquartered ➔ **Lyon, France**.
- Formation ➔ formed in **1923** as the International Criminal Police Commission, and started calling itself Interpol in 1956.
- **India joined the organisation in 1949**, and is one of its oldest members.
- Interpol's declared **global policing goals include** countering terrorism, promoting border integrity worldwide, protection of vulnerable communities, providing a secure cyberspace for people and businesses, curbing illicit markets, supporting environment security, and promoting global integrity.

7. Varmakkalai

Why in News?

- 25 years of 'Indian'movie, 'Aasaan' Rajendran, taught 'varmakkalai' to Kamal Haasan.

About

- What is it? ➔ It is an **Indian traditional art of vital points**.
- Origin ➔ It originated in present-day **kanyakumari, Tamil Nadu**.
- It **combines massage**, **alternative medicine**, **traditional yoga** and **martial arts** in which the body's pressure points (varmam) are manipulated to heal or cause harm.
- The healing application called **Vaidhiya Murai** is **part of Siddha medicine** (siddha vaidyam).
- Its combat application is known as Adimurai (it includes a component called Varma Adi, meaning "pressure-point striking") can be **done either empty-handed** or **with a blunt weapon** such as a stick or staff.
- Varma Kalai is usually **taught in the advanced stage of Adimurai**, **Kalaripayattu**, and **Silambam in Kerala and Tamil Nadu respectively**; strikes are targeted at the nerves, veins, tendons, soft tissues or ligaments, organs and bone joints.

8. Maharana Pratap

Why in News?

- May 9 marks the birth anniversary of Maharana Pratap, the 13th Rajpur king of Mewar. Maharana Pratap was born in 1540 and died at the age of 56 in 1597.

About

- Pratap Singh popularly known as **Maharana Pratap**, was a king of Mewar, a region in the **present day state of Rajasthan**.
- He was the **eldest son of Udai Singh II** (founder of city of Udaipur).
- Battle of Haldighati ➔

- It was fought on **18 June 1576** between the **forces Maharana Pratap**; and the **Mughal emperor Akbar's forces**, led by Man Singh I of Amber.
- The **Mughals were the victors** but **failed to capture Pratap**, who escaped.

- Resurgence ➔
  - **Mughal pressure** on Mewar **relaxed after 1579** following rebellions in Bengal and Bihar.
  - Taking advantage of the situation, **Pratap recovered Western Mewar** including Kumbhalgarh, Udaipur and Gogunda.
  - During this period, he also **built a new capital**, **Chavand**, near modern Dungarpur.
- Chetak ➔
  - Chetak is the name given in traditional literature to the **horse ridden by Maharana Pratap** at the Battle of Haldighati. However, some Historians debate it.
  - According to tradition, Chetak, although wounded, **carried Pratap safely away from the battle**, but then **died of his wounds**. The story is recounted in court poems of Mewar from the 17th century onwards.
- Pratap Gaurav Kendra ➔ It is a **tourist spot** at **Tiger Hill in Udaipur city, Rajasthan**. It aims at providing information about Maharana Pratap and the historical heritage of the area with the help of modern technology.

9. Gopal Krishna Gokhale

Why in News?

- PM paid tributes to Gopal Krishna Gokhale on his birth anniversary. He was born on 9 May 1866.

About

- Indian National Congress (INC) ➔
  - Gokhale **became a member** of the Indian National Congress **in 1889**. He was the **leader of the moderate faction** of the Congress party.
  - In **1905**, he was **elected president** of the Indian National Congress (Benares Session).
  - He played a **leading role** in bringing about **Morley-Minto Reforms**, the beginning of constitutional reforms in India.
- Member in British India Legislature ➔ In **1899**, Gokhale was **elected to the Bombay Legislative Council** and in 1901 he was elected to the Imperial Council of the Governor-General of India.
- Servants of India Society ➔
  - It was formed by him in **Pune (Maharashtra) in 1905** to further the **expansion of education** in India.
  - The Society organised mobile libraries, founded schools, and provided night classes for factory workers.
- Ranade Institute of Economics ➔ In **1908**, he founded the **'Ranade Institute of Economics**'.
- Mentor to Gandhi ➔ In his autobiography, Gandhi calls Gokhale **his mentor and guide**. In **1912**, Gokhale **visited South Africa** at Gandhi's invitation. He **received personal guidance from Gokhale**, including a knowledge and understanding of India and the issues confronting common Indians.
- Hitavad ➔ He launched the **English weekly newspape**r named **The Hitavad** (The people's paper) in 1911.

10. Al-Aqsa Mosque

Why in News?

- Recently, the Israeli police stormed the Al-Aqsa mosque compound in East Jerusalem, leaving a reported 300 people injured.

About

- It is located on a plaza **at Temple Mount**, which is known in Islam as **Haram-e-Sharif**.
- The Mount is also **Judaism's holiest site**.
- The most imposing structure on the compound is the **Dome of the Rock**, with its **golden dome**.
- Al-Aqsa translates from Arabic to English as "**the Farthest Mosque**".
- According to the Quran, it is believed that **Prophet Muhammad travelled from Mecca to Al-Aqsa** during the Night Journey, and then on to heaven.
- It was originally built as a **small prayer house** but the mosque was **reconstructed by the Umayyad caliph Abd** al-**Malik** in **705 CE**.

11. Hakki Pikki Tribal

Why in News?

- Recently, some people of the HakkiPikki Tribe survived Covid-19 in Karnataka.

About

- It is a semi-nomadic tribe based largely in **Karnataka** and sparsely spread in other **districts of Telangana** and **Andhra Pradesh**.
- The HakkiPikki tribes have **four clans** namely the **Gujrathioa**, **Kaliwala**, **Mewara** and **Panwara**.
- It is a **Scheduled Tribe** in Karnataka.
- Language ➔ They speak many south Indian languages such as **Kannada**, **Tamil**, **Telugu** and **Malayalam** along with **Vagribooli** which is similar to Guajarati.
- The HakkiPikki, meaning "**bird catchers**" in Kannada.
- Main Religion ➔ **Hinduism**.
- UNESCO has listed Hakki Pikki as one of the **endangered languages**.
- Origin and History ➔
    - The origin of HakkiPikki tribal communities has a rich history and is said to be an **ancestral relation with the legendary Ranapratap Singh**.
    - The HakkiPikki tribal community are a **Kshatriya** or **warrior tribal community** who had to **migrate to southern India** after their defeat with Mughal kings.

12. NOK Culture

Why in News?

- Recently, the scientists found traces of beeswax in prehistoric pottery of the West African Nok culture. It was one of the earliest known societies of Western Africa. It existed in modern-day Nigeria from around 500 B.C.E. to 200 C.E.

About

- The Nok people used **to farmed crops** and **used iron tools**.
- According to recent research, the **use of iron technology** like tools, weapons by them can be traced back to **4th century B.C.E**.
- They are significant for being one of **very few civilizations in the world** that **transitioned from stone tools straight to iron tools** without first learning how to make copper or bronze tools.

Sculptures

- Nok culture is known for its **unique terracotta sculptures**.
- The **artifacts** were first discovered near the **modern Nigerian town of Nok**.
- These sculptures represent the **oldest figurative art** in Africa.
- Nok sculptures clearly depict the **triangular** or **oval-shaped eyes on human faces**. Human figures also often have elaborate hairstyles.
- In the sculptures, humans are **depicted seated**, with **their hands on their knees**.

13. Mongolian Kanjur Manuscripts

Why in News?

- The Culture Ministry has informed that reprinting of about 100 sets of sacred Mongolian Kanjur will be completed by next year for distribution in the main centres of Buddhism in Mongolia.

About

- In the Mongolian language 'Kanjur' means '**Concise Orders**'- the **words of Lord Buddha in particular**.
- Mongolian Buddhists **worship the Kanjur at temples** and recite the lines of Kanjur in daily life as a sacred ritual.
- The Mongolian Kanjur has been **translated from Tibetan**. The language of the Kanjur is **Classical Mongolian**.

- Cultural Relations Between India and Mongolia ➔
  - Buddhism was **carried to Mongolia by Indian cultural and religious ambassadors** during the early Christian era.
  - As a result, today, Buddhists form the **single largest religious denomination** in Mongolia.

- India established formal **diplomatic relations with Mongolia in 1955**.

- Significance ➔ India possesses an estimate of **ten million manuscripts**, probably the **largest collection in the world**. These cover a variety of themes, textures and aesthetics, scripts, languages, calligraphies, illuminations and illustrations.

14. Bonda Tribe

Why in News?

- As many as 21 tribals across eight different Particularly Vulnerable Tribal Groups (PVTGs) in Odisha have tested positive for Covid-19. Among them, two persons are from the Bonda tribe.

About

- PVTGs ➔ Bonda tribes are **one of the 13 Particularly Vulnerable Tribal Groups** (PVTGs) found in Odisha.
- Austroasiatic Tribes ➔ Bonda tribes are members of a **group of Austro-Asiatic tribes**. They are believed to be part of the **first wave of migration out of Africa** about 60,000 years ago. They are the **first forest settlers in India**.
- Culture ➔ The Bondas have **retained their identity and culture** despite external interventions over the years.
- Occupation ➔ They are primarily **forest dwellers**. They perform **hunting** and **foraging for food in the wild**.
- Matriarchal society ➔ The **women prefer to marry men** who are **younger by at least 5-10 years**. This is done because the men can earn for them when they grow old.
- Dressing style ➔ Women are **semi-clad** and **wear various types of rings** and **necklaces** around their bodies. The men on the other hand carry lethal bows and arrows.
- Language ➔ They continue to speak in their language, Remo. It comes under the **Austro-Asiatic language** belonging to the **Mundari group**.

15. Basava Jayanthi

Why in News?

- The Prime Minister of India paid tribute to Jagadguru Basaveshwara on the occasion of Basava Jayanthi.

About Jagadguru Basaveshwara

- He was an Indian **12th-century Philosopher**, **Statesman** and a **social reformer**.
- He was **Lingayat saint** in the Shiva-focussed Bhakti movement, and Hindu Shaivite social reformer during the reign of the **Kalyani Chalukya**/**Kalachuri dynasty**.
- He is also known as **Bhakti Bhandari** (literally, the treasurer of devotion), or Basaveswara (Lord Basava).
- Basavanna **spread social awareness** through his poetry known as **Vachanaas**.
- Several important Lingayat works are credited to Basavanna, including **Vachana** such as the **Shat-sthala-vachana**, **Kala-jnana-vachana**, **Mantra-gopya**, **Ghatna Chakra-vachana** and **Raja-yoga-vachana**.
- Basavanna, like Gautama Buddha, taught people **how to live happily** in a **rational social order** which later came to be known as the **Sharana movement**.
- The Sharana movement **attracted people from all castes**, and like most strands of the Bhakti movement, produced a corpus of literature, the vachanas, that unveiled the **spiritual universe of the Veerashaiva saints**.

- Basava fought **against** the **inhuman practice of the caste system**, which discriminated against people based on their birth.
- The **Anubhava Mantapa** established by Basava laid down the **foundation of social democracy**.
- Basava believed that **man becomes great** not by his birth **but by his conduct in the society**.
- He taught the **dignity of manual labour** by insisting on work as worship.

16. Climate Change destroying the Oldest Cave Art

Why in News?

- A new study has found that one of the oldest pieces of the world's human heritage in Sulawesi island of Indonesia is weathering at an alarming rate due to climate change.

About

- The Sulawesi cave art is **much older than the prehistoric cave art of Europe**.
- These Pleistocene-era rock paintings found in caves of the **Maros-Pangkep region in southern Sulawesi** date back to **45,000-20,000 years**.
- The area is known to be home to **over 300 cave paintings**, and more are being discovered with further explorations.
- Artwork in the area includes the **world's oldest hand stencil** (almost 40,000 years ago), created by pressing the hand on a cave wall, and spraying wet red-mulberry pigments over it.
- A nearby cave features the **world's oldest depiction of an animal**, a warty pig painted on the wall 45,500 years ago.

Findings of the Study

- The flakes of rock that have begun to detach from cave surfaces had **calcium sulphate and sodium chloride salts**. These salts form crystals on rock surfaces, causing them to break.
- The artwork made with pigments was decaying due to **haloclasty process**.
- This is a process triggered by the **growth of salt crystals** due to repeated changes in temperature and humidity, caused by alternating wet and dry weather in the region.
- Indonesia has also experienced **several natural disasters** in recent years, which have quickened the process of deterioration.
- Recommendations - **Regular physical** and **chemical monitoring** of the cave art sites would help.

17. Jagannath Temple

Why in News?

- The Jagannath Temple has been closed due to a surge in COVID-19 cases in Odisha.

About

- Location ➔ **Odisha**.
- Constructed by ➔ **King Anatavarman Chodaganga Deva**, the first king of the Eastern Ganga Dynasty in the 12th century.
- It is dedicated to **Lord Jagannath**, a **form of Lord Vishnu**.
- Jagannath Puri temple is called '**Yamanika Tirtha**' where, according to the Hindu beliefs, the power of '**Yama**', the **god of death has been nullified** in Puri due to the presence of Lord Jagannath, popularly known as **Lord Krishna**.
- This temple was called the "**White Pagoda**" and is a **part of Char Dham pilgrimages** (Badrinath, Dwaraka, Puri, Rameswaram).
- **Architectural features of the temple-**
    - The entire temple complex is enclosed within two concentric walls, the **Kuruma Bheda** (Inner wall) and the **Meghnad Pachira** (Wall).
    - There are four gates to the temple- Eastern '**Singhdwara**' which is the main gate with two crouching lions, Southern '**Ashwadwara**', Western '**Vyaghra Dwara** and Northern '**Hastidwara**'. There is a carving of each form at each gate.
    - The main entrance to the temple is through **Singhadwara** located on the Eastern Front of the temple with three **other entrances** along with the **four cardinal directions**.
    - The **Nilachakra** – Or the **Blue wheel perched** on top of the temple is made of eight metals or asta dhatu.
    - The **Aruna stambha**- the **33 ft monolith structure pillar** in front of the Singhadwar or the main entrance of the temple was originally located at the Sun Temple, Konark.
- Festival's associate ➔
    - Devasnana Purnima
    - Chariot Festival.

18. International Museum Day 2021

Why in News?

- Culture Ministry organised a panel discussions on the occasion of International Museum Day 2021.

About

- Celebrated on **18 May** every year.
- History ➔ The Day was instituted in 1977 by the International Council of Museums (**ICOM**).
- 2021 Theme ➔ **The Future of Museums: Recover and Reimagine**.
- Objective ➔ To **raise awareness among people** about the museums in the development of society on an international level.

☞ NGMA audio-visual guide app

- Launched by ➔ **National Gallery of Modern Art** (**NGMA**), New Delhi.
- This app will allow viewers to **listen to stories and anecdotes** on their smartphones of several treasured Indian Modern artworks displayed at the museum.

☞ International Council of Museum (ICOM)

- ICOM is a **membership association** and a **non-governmental organisation** which establishes **professional and ethical standards** for museum activities. It is the only global organisation in the museum field.
- Created in ➔ **1946**.
- Headquartered ➔ **Paris, France**.
- It serves as a **network of museum professionals** (more than 40,000 members in over 138 countries).
- The **ICOM Red Lists** of **Cultural Objects at Risk** are practical tools to curb the illegal traffic of cultural objects.
- Red Lists present the categories of cultural objects that can be **subjected to theft and traffic**.

19. UNESCO Heritage Sites Added In India

Why in News?

- Recently, Six cultural heritage sites from India have been added to the UNESCO tentative list of world heritage sites.

About

- The **six Indian sites** included in the UNESCO Tentative list are ➔
  - Ganga ghats in Varanasi, UP.
  - Temples of Kanchipuram in Tamil Nadu.
  - Satpura Tiger Reserve in Madhya Pradesh,
  - Maratha military architecture in Maharashtra
  - Hire Bengal megalithic site in Karnataka and
  - Bhedaghat-Lameta Ghat of Narmada Valley in Madhya Pradesh.

👉 World Heritage site

- A World Heritage site is classified as a **natural** or **man-made area** or a **structure that is of international importance**, and a space which requires special protection.
- These sites are officially **recognised by the UN** and the United Nations Educational Scientific and Cultural Organisation, also known as **UNESCO**.
- UNESCO believes that the sites classified as World Heritage are **important for humanity**, and they **hold cultural and physical significance**.
- Key facts ➔
  - The list is maintained by the **international World Heritage Programme** administered by **the UNESCO World Heritage Committee**, composed of 21 UNESCO member states which are elected by the General Assembly.
  - Each World Heritage Site remains **part of the legal territory of the state** wherein the site is located and UNESCO considers it in the **interest of the international community** to preserve each site.
  - To be selected, a World Heritage Site must be an **already classified landmark**, **unique in some respect** as a geographically and historically identifiable place having special cultural or physical significance.

20. National Archives of India

Why in News?

- A group of archivists and scholars has called for transparency in the proposed demolition of annexes that form part of the National Archives of India in order to make way for the Central Vista project.

About

- History ➔ It was originally established as the **Imperial Record Department** in 1891 in Calcutta(Kolkata). This department was **transferred to the new capital**, **New Delhi**, In **1911**, and it was shifted into the present building in 1926.
- Nodal Ministry ➔ It functions as an **Attached Office** of the **Department of Culture** under the Ministry of Culture.
- National Archives of India (NAI) is a **custodian of the non-current records of enduring value** of the Government of India. **It holds them in trust** for the use of administrators and scholars.
- Headquarters ➔ **New Delhi**. It also has a **Regional Office** at Bhopal and three Record Centres at Bhubaneswar, Jaipur, and Pondicherry.
- Significance ➔ It is the **biggest archival repository** in **South Asia**. It has a **vast corpus of records** viz., public records, oriental records among others which constitute an invaluable source of information.

👉 Abhilekh Patal

- Abhilekh patal is an **online portal** to **access the National Archives of India's reference media** and its digitized collections via the internet.
- Meaning ➔ The name 'Abhilekh patal' comes from the Sanskrit word '**Abhilekh'** meaning the **records of ancient times** and the word '**patal' meaning the platform**, **board**, or **surface**.

21. Buddha Purnima

Why in News?

- This year the Buddha Purnima is celebrated on May 26.

About

- It is celebrated to mark the **birth of Gautam Buddha**, the founder of Buddhism.
    - It is also known as **Vesak**. In 1999, it became a **UN-designated day**, to acknowledge the contribution of Buddhism to society.
- It is considered a **'triple-blessed day'** - as Tathagata Gautam Buddha's birth, enlightenment, and Maha Parnirvana.
- Buddha Purnima falls on a **full moon night**, usually **between April and May**, and it is a **gazetted holiday** in India.
- Many devotees visit **Mahabodhi Temple**, a UNESCO World Heritage Site, located in **Bodh Gaya, Bihar**, on this occasion.
    - Bodhi Temple is the location where Lord Buddha is said to have **attained enlightenment**.

👉 About Gautam Buddha:

- He was born as **Siddhartha Gautama** in circa **563 BCE**, **in Lumbini** and belonged to the **Sakya clan**.
- Gautam attained **Bodhi** (enlightenment) **under a pipal tree** at Bodhgaya, Bihar.

- Buddha gave his **first sermon** in the **village of Sarnath**, **near Varanasi in Uttar Pradesh**. This event is known as **Dharma Chakra Pravartana** (turning of the wheel of law).
- He **died** at the **age of 80 in 483 BCE at Kushinagara**, **Uttar Pradesh**. The event is known as **Mahaparinibban** or **Mahaparinirvana**.
- He is believed to be the **eighth** of the **ten incarnations of Lord Vishnu** (Dashavatar).

☞ UNESCO's Heritage Sites Related to Buddhism

- Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar
- Buddhist Monuments at Sanchi, MP
- Mahabodhi Temple Complex at Bodh Gaya, Bihar
- Ajanta Caves Aurangabad, Maharashtra.

22. Miniature Sculpture of the Buddha found in Udupi

Why in News?

- The Buddha was found among debris removed from an abandoned well at Alembi in Udupi district in Karnataka.

About

- It is **nine centimetres high**, **five centimetres wide** and two centimetres thick.
- The Buddha is seated on a **lotus pedestal** in **Dharma Chakra Pravarthana Mudre**.
- Below the seat, **six disciples** are seated on either side of the Dharma Chakra.
- The Lord **wears clothes** and **ear-rings**.
- A **small Ushnisha** is shown on the **top of the head**.
- In the back of the head, a **beautifully carved round lobe** is seen.
- On the top corners, **two Yakshas** and, on either side of his back, **two winged horses** have been carved out.
- The sculpture is in the **Gupta style**.
- Significance of the discovery ➔ Traditionally, the **ancient Tulu Nadu** was said to be ruled by the **Kadambas of Banavasi**. The Guptas and the Kadambas of Banavasi had matrimonial relations. Hence, the discovery of the Buddha sculpture is not an uncommon thing.

23. Veer Savarkar

Why in News?

- As many as 21 tribals across eight different Particularly Vulnerable Tribal Groups (PVTGs) in Odisha have tested positive for Covid-19. Among them, two persons are from the Bonda tribe.

About

- Vinayak Damodar Savarkar (1883 – 1966), popularly called **Veer Savarkar** was **born near Nasik in Maharashtra**.
- Veer Savarkar was a **freedom fighter**. He called **1857 revolt** as the **first war of independence**.
- He founded the following Organizations: **Abhinav Bharat Society** and **Free India Society**.
- He was also a **member of India House**. He was not the founder of **Hindu Mahasabha**, but he did **served as its president**.

- He **opposed** the **Quit India struggle** in **1942**, calling it a "Quit India but keep your army" movement.
- Savarkar endorsed the ideal of India as a **Hindu Rashtra** and is credited with developing the **Hindu nationalist political ideology Hindutva**.
- Publications ➔
    - He wrote the book "**Joseph Mazzini- Biography and Politics**."
    - He published "**The Indian War of Independence**" about the Indian rebellion of 1857.
- The airport at Port Blair, Andaman and Nicobar's capital has been named **Veer Savarkar International Airport**.

Miscellaneous

1. World Press Freedom Day

Why in News?

- World Press Freedom Day is being observed on May 3, 2021.

About

- History ➔ World Press Freedom Day was proclaimed by the UN General Assembly in **December 1993**, following the recommendation of UNESCO's General Conference.
- Date of observance ➔ Since then, **3 May**, the **anniversary of the Declaration of Windhoek** is celebrated worldwide as World Press Freedom Day.
- Objective of the Day ➔ To celebrate the fundamental principles of press freedom, **assess the state of press freedom** throughout the world, **defend the media from attacks** on their independence, and **pay tribute to journalists** who have lost their lives in the line of duty.
- Theme ➔ This year's theme "**Information as a Public Good**" serves as a call to affirm the importance of cherishing information as a public good.

2. Operation Samudra Setu-II

Why in News?

- The Indian Navy has launched Operation Samudra Setu-II.

About

- The Indian Navy launched this operation with the aim to **bring oxygen-filled cryogenic containers to India from abroad**.
- This is because the country is facing a **severe shortage of medical oxygen** in the wake of a massive spike in new Covid-19 cases.
- As part of the mission, Seven Indian Naval ships, namely **Kolkata**, **Kochi**, **Talwar**, **Tabar**, **Trikand**, **Jalashwa**, and **Airavat**, **are participating**. These ships will carry shipments of liquid medical oxygen-filled cryogenic containers and associated medical equipment from various countries to India.

Operation Samudra Setu:

- The Indian Navy launched this operation in **May 2020** as a **part of Vande Bharat Mission**. It aimed to bring back around two thousand Indians in two ships during the first phase of evacuation.
- **INS Jalashwa** and **INS Magar** were operated as **part of efforts to repatriate Indian nationals** from foreign shores.

3. Moorhen Yoga Mat

Why in News?

- Biodegradable yoga mat developed by 6 young girls from Assam may save lakes from water hyacinth menace.

About

- It is a **biodegradable and compostable** yoga mat developed **from water hyacinth** by six young girls from the fishing community in Assam.
- It could turn this water plant from a **nuisance to wealth**.
- The mat called 'Moorhen Yoga Mat' will soon be **introduced to the world market** as a **unique product**.
- The intervention was triggered through an **initiative by North East Centre for Technology Application and Reach** (**NECTAR**), an autonomous body under Department of Science & Technology (DST) to **involve the entire women community** associated with a collective called '**Simang'** meaning **dream**, led by the 6 girls to create wealth from water hyacinth plants.

👉 Deepor Beel

- The girls belong to the fishing community living in the **fringe of the Deepor Beel**, a **permanent freshwater lake** in south west of Guwahati city, recognised as a Ramsar Site (a wetland of international importance) and a **bird wildlife sanctuary**.
- The lake has been a **source of livelihood** for 9 villages of the fishing community who **shared this biome for centuries**, but over the years suffered from excessive growth and accumulation of water hyacinth.

4. Ayush-64

Why in News?

- The Ministry of Ayush has announced that it has taken steps to increase the production of AYUSH 64 across the country to treat mild to moderate cases of coronavirus infections.

About

- What is it? ➔ Ayush-64 is an **Ayurvedic drug developed by** the Central Council for Research in Ayurvedic Sciences (**CCRAS**), the apex body for research in Ayurveda under the Ministry of Ayush.
- Background ➔ The drug was **originally developed in 1980** for the management of Malaria.
- However, this drug has now been **repurposed for Covid-19** as its ingredients showed **notable antiviral**, **immune-modulator**, and **antipyretic properties**.
- The drug can be useful for the **treatment of asymptomatic**, mild, and **moderate COVID-19 infection cases**.
- The drug was found to significantly **enhance the recovery** in terms of disease symptoms and severity. It also has significant **beneficial effects on general health**, fatigue, anxiety, stress, appetite, general wellbeing, and sleep.
- Ayush-64 is a **polyherbal formulation** i.e. **use of more than one herb**. The development of the drug was in compliance with all regulatory requirements of pharmacopeial standards by the Central Council for Research in Ayurvedic Sciences (**CCRAS**).

5. Cinco de Mayo

Why in News?

- Recently, with parties, parades and Mexican cuisine and music, Cinco de Mayo was celebrated on 5th May.

About

- It is a day that celebrates **Mexican national pride**, marking **Mexico's military victory** on its soil over French forces in 1862.
- Mexico was then **led by President Benito Juárez** (1806-1872), a revered democratic reformer and opponent of foreign intervention in his country.
- In Puebla, Cinco de Mayo is celebrated annually with speeches, parades, and **by reenacting episodes of the 1862 battle**.
- The city today **houses a museum** dedicated to the battle, and the actual battlefield is maintained as a park.

Why Cinco de Mayo is celebrated?

- In the 1860s, **Mexico** had been severely **weakened by lengthy wars** over the previous two decades i.e. the **Mexican-American War** (1846-48) and **the internal Reform War** (1858-61).
- By April **1862**, **Britain and Spain** negotiated with Mexico and withdrew, but France decided to **establish an empire in Mexican territories** with the support of the local landowning classes.
- At Puebla, over 100 km ahead of Mexico City, a **poorly equipped** and outnumbered **Mexican force decisively defeated** the **advancing French troops** on May 5, 1862.
- The event marked a **significant political victory of Mexican republicans** and **President Juárez**, and helped establish a sense of national unity in the country.

6. Proning

Why in News?

- Ministry of Health and Family Welfare has issued an advisory regarding proning exercise for Covid patients in hospitals, so that they may not require additional oxygen support.

About

- What it is? ➔ Proning a **medically approved position**, in which patients are made to lie on their abdomen **to boost their oxygen levels**.
- While proned, the patient is made to **lie on his/her belly using pillows**. One can also lie on their right side (right lateral), left side (left lateral) or **sit at a 60-90 degree angle** in the '**fowler position**'.
- Doctors suggest that a patient remain prone for a **minimum of 30 minutes** to a **maximum of 2 hours**. This helps **improve ventilation** to the lungs and hence oxygen levels start improving.
- As the second wave of Covid-19 sweeps through the country with deadly consequences, doctors across the state have **started advocating proning exercises** to **improve oxygen levels** in Covid positive patients- both in home isolation as well as in hospital.

7. Facebook's Oversight Board

Why in News?

- Facebook's Oversight Board has upheld the social media network's decision on January 7 to block the then-U.S. President Donald Trump from its platform.

About

- What it is? ➔ It is an **independent body** that helps Facebook figure out **what content can be allowed** on the platform and **what ought to be removed**.
- Formation ➔ Established in **2020 by Facebook**.
- Composition ➔ The board is a panel of about **20 former political leaders**, **human rights activists**, and **journalists** picked by Facebook.
- How does the Board work? ➔
    - The board gives users the **ability to appeal to the board**, giving them a **chance to challenge** content decisions on Facebook and Instagram.
    - For instance, if a user on any of the two platforms has exhausted all attempts to request for review of their content decisions and the user is not happy with the final decision, he or she can write an appeal to the board.
    - However, this does **not mean** that the board will **oversee all appeals**. It **selects cases** based on **how significant and difficult they are** and if they are globally relevant and have the potential to inform future policy.
- Is the Board decision binding on Facebook? ➔ **Facebook** as well as its **users can refer cases** to the board. The decisions of the board are **binding on Facebook**.
- Is Facebook's oversight Board independent? ➔ In order to ensure the board's independence, Facebook established an **irrevocable trust with $130 million in initial funding**, expected to cover operational costs for over half a decade.

8. Project MediCAB

Why in News?

- IIT Madras supported start-up Modulus Housing has developed a portable hospital unit called 'MediCAB'.

About

- What is it? ➔ Project MediCAB is an initiative of the **Office of principal scientific advisor** and **IIT Madras**.
- Purpose ➔ It is a **portable hospital unit** that has been developed to **boost healthcare infrastructure** by assisting states to set up COVID-19 extension hospitals.
- The project is a **decentralized approach** to detect, screen, identify, isolate and treat COVID-19 patients **in their local communities** through these portable microstructures.
- Key Features ➔
    - The portable hospital is **foldable**. It is composed of **four zones-** an isolation room, a doctor's room, a twin bed ICU, maintained at negative pressure, and a medical room/ward.
    - The hospital can be **easily assembled** in **eight hours by four people**. Further, when folded the unit can be reduced five-fold which makes it **very cost-effective for transportation**.
- Importance ➔ Innovations such as MediCAB will **help in boosting the healthcare infrastructure** in India as it can be **rapidly transported**. The hospital can be deployed at any place and at any time.

9. Christchurch Call to Action

Why in News?

- The United States has announced that it will be joining "Christchurch Call to Action" against online extremism.

About

- Formation ➔ Christchurch Call to Action was launched during the **Online Extremism Summit in Paris, France** in 2019.
- The summit was **co-chaired by New Zealand and France**.
- Named after ➔ The call is named after the **New Zealand city**. In Christchurch, **51 members of the Muslim community** were **murdered** in a live-streamed terrorist attack in 2019.
- Objective ➔ The Christchurch Call is a **global pledge** by member governments and technology partners. Under this, they **work together to address terrorist and violent extremist contents online**.
- Member Countries ➔ **Seventeen countries** originally **signed the agreement.** Another 31 countries signed the agreement later.
- **India is one** of the member countries.
- Sections ➔ The pledge is **non-binding**. It consists of **three sections** or commitments. The **governments**, **Online service providers** and **Ways in which** the earlier two can work together.
- Measures ➔ The plan commits Governments, international organizations and Internet companies to **perform a range of measures**.
- This includes,
    - **Developing tools** to prevent the upload of terrorist and violent extremist content;
    - **Countering the roots** of violent extremism;
    - **Increasing transparency** around the detection and removal of content;
    - **Ensuring that algorithms designed** and used by companies do not direct users towards violent and extremist content.

10. E-Sanjeevani

Why in News?

- Ex-Defence doctors to provide online consultation on e-Sanjeevani OPD.

About

- The e-Sanjeevani OPD is a **flagship telemedicine platform** of the Government, developed by the Centre for Development of Advance Computing (**C-DAC**), **Mohali** under the aegis of Ministry of Health and Family Welfare (MoHFW).
- It provides **free consultations to Indian citizens**.
- The platform has enabled two types of telemedicine services:
    - eSanjeevani → It is a **doctor to doctor telemedicine system** being implemented under the Ayushman Bharat Health and Wellness Centre(**AB-HWCs**) **programme**. It seeks to connect **all 1,50,000 HWCs** using the **hub-and-spoke model by December 2022**.
    - eSanjeevaniOPD → It was launched amid the Covid-19 pandemic to enable **patient-to-doctor teleconsultation**.

👉 e-ICU Platform

- e-ICU has been launched **on the e-Sanjeevani platform**. It has been **developed by** the **Medical Branch of Integrated Defence Staff** in coordination with **C-DAC Mohali**.

- Purpose: The portal will **help the Medical Officers** to **get real-time consultations** from specialists doctors in managing their patients.
- The portal is based on the **Hub & Spoke model**. Under this, Medical Specialists are at the Hub and the Medical Officers are at the Spokes. This will help to leverage technology for overcoming the specialist shortages as **part of the Digital India mission**.

11. Green Urja Award

Why in News?

- Indian Renewable Energy Development Agency Ltd. (IREDA) has been conferred with "Green Urja Award" for being the Leading Public Institution in Financing Institution for Renewable Energy.

About

- Given by ➔ the **Indian Chamber of Commerce**(ICC).
- The award has been conferred to the IREDA for being the **Leading Public Institution** in **Financing Institution** for **Renewable Energy**.

👉 IREDA

- It is a **Mini Ratna** (Category – I) Government of India Enterprise under the administrative control of the **Ministry of New & Renewable Energy**.
- It was founded in 1987.
- Purpose ➔ IREDA **promotes**, **develops**, and **extends financial assistance** for setting up projects relating to new and renewable sources of energy.
- Registered under ➔ IREDA has been notified as a **Public Financial Institution** under **Companies Act,1956**. It is **registered as** Non-Banking Financial Company(**NFBC**) with Reserve Bank of India(**RBI**).
- Motto ➔ IREDA's Motto is "**Energy for Ever**."
- Significance ➔ It is the **only dedicated institution** for financing Renewable Energy (RE) & Energy Efficiency (EE) projects in India.

👉 Indian Chamber of Commerce

- It was founded in **1925** as the leading and only National Chamber of Commerce having headquarter in **Kolkata**.
- It is a **premier body of business and industry** in Eastern and North-Eastern India.
- It is the only Chamber from India to **win the first prize in World Chambers Competition** in **Quebec, Canada**.

12. National Technology Day- 2021

Why in News?

- CSIR-CMERI has celebrated National Technology Day- 2021 by interacting with the MSME Representatives.

About

- The day, which was **first observed** on **11 May, 1999**, aims to commemorate the scientific and technological achievements of Indian scientists, engineers.

- Theme this year is "**Science and Technology for a Sustainable Future**".
- Significance ➔
    - It is the day India successfully **tested nuclear bombs in Pokhran** on May 11, 1998. India successfully test-fired its **Shakti-1 nuclear missile** in operation called **Pokhran-II**, also codenamed as **Operation Shakti**.
    - On the same day, India performed a successful test firing of the **Trishul Missile** (surface to air short range missile) and had test flown the first indigenous aircraft – '**Hansa – 3**'.

👉 CSIR-CMERI

- Central Mechanical Engineering Research Institute (also known as CSIR-CMERI) is a **public engineering research and development institution**. It was **founded in 1959**.
- Part of ➔ The institute is a constituent **laboratory of** the Indian Council of Scientific and Industrial Research (**CSIR**).
- Purpose ➔ The institute was founded to **develop national mechanical engineering technology**, particularly in order to help Indian industries.
    - Currently, the Institute is making R&D efforts in areas such as Robotics, Mechatronics, Cybernetics, Manufacturing, Precision agriculture, embedded system.
- Located at ➔ **Durgapur, West Bengal**.

13. Ivermectin Drug

Why in News?

- The World Health Organization (WHO) has recommended against the use of 'ivermectin' drug for the treatment of COVID-19 patients.

About

- Ivermectin is an **orally administered drug** used to **treat parasitic infections**. These include parasitic infections of the intestinal tract, skin, and eyes.
- How does it work? ➔ Ivermectin works by **binding to parts inside the parasite**. It eventually paralyses and kills off the parasite.
- Or it **stops adult parasites** from making larvae for a while. This **provides relief** to the parasitic infection.
- Why is it used for Covid-19 patients? ➔ Ivermectin was found to be **effective** in **reducing the multiplication** of **certain RNA viruses**. Such as SARS and Covid-19 RNA. Hence, it is used for the treatment of COVID-19 in mild to moderate cases.
- [Ivermectin is used for the treatment and eradication of two life-threatening illnesses - **Onchocerciasis** and **filariasis**.]

14. World Food Prize

Why in News?

- World Food Prize 2021 Won by Shakuntala Haraksingh Thilsted of Indian Descent.

About World Food Prize

- Presented by ➔ The award is presented by the **World Food Prize Foundation**.
- The World Food Prize is the foremost international honor **recognizing the achievements of individuals** who have advanced human development by **improving the quality**, **quantity** or **availability of food in the world**.
- Fields Covered ➔ Any field involved in the world food supply including **plant**, **animal** and **soil science**; **food science and technology**; **nutrition**, **rural development**, etc.
- Eligibility ➔ It is open for **any individual** **without regard to race**, **religion**, **nationality** or **political beliefs**.
- Cash Prize ➔ **$2,50,000**.
- **Norman E. Borlaug**, winner of the Nobel Peace Prize in 1970 for his work in global agriculture, **conceived the Prize**. He is also known as the **Father of the Green Revolution**.
- The World Food Prize was **created in 1986** with **sponsorship by General Foods Corporation**.
- It is also known as the "**Nobel Prize for Food and Agriculture**".
- **M.S. Swaminathan**, the father of India's green revolution, was the **first recipient** of this award in **1987**.

15. TIFR's Carbon dioxide Conversion Process

Why in News?

- The Tata Institute of Fundamental Research (TIFR) scientists have found the cheapest carbon dioxide conversion process.

About

- This **magnesium-assisted process mixes carbon dioxide**, **water** and **magnesium**, at room temperature and pressure **to get methane**, **methanol**, **formic acid** and **some hydrogen**.
- **Magnesium carbonate** is the **by product**. It is used in the production of green cement and in the pharma industry.
- With this process, one can make methane on Mars. Methane is a **rocket fuel**. This is because,
    - Mars's atmosphere is almost **entirely comprised of carbon dioxide**.
    - Mars has **water** in the **form of ice**.
    - Its **soil** contains an **abundance of magnesium**.

16. Amphotericin B

Why in News?

- A sudden increase in demand has been observed in some states for Amphotericin B which is being actively prescribed by the physicians to patients suffering from Mucormycosis, a post COVID complication.

About

- It is **fungistatic** or **fungicidal** depending on the concentration obtained in body fluids and the susceptibility of the fungus.
- The antibiotic is **without effect on bacteria**, **rickettsiae**, and **viruses**.
- The drug acts by **binding to sterols** (ergosterol) in the **cell membrane of susceptible fungi**.

- It creates a **transmembrane channel** and the **resultant change in membrane permeability** allowing leakage of intracellular components.
- Amphotericin B, **a polyene**, **binds irreversibly to ergosterol**, resulting in **disruption** of membrane integrity and ultimately cell death.
- Importance of Amphotericin B ➔ It shows a **high order of in vitro activity** against many species of fungi.

17. Migration and Development Brief Report

Why in News?

- Recently, the World Bank has released the Migration and Development Brief which provides information regarding remittances received by various countries.

About

- Prepared by ➔ The report is prepared by the Migration and Remittances Unit, **Development Economics** (DEC)- the premier research and data arm of the World Bank.
- The report is produced **twice a year**.
- Aim ➔ The report aims to **provide an update** on key developments. Especially in the area of migration and **remittance flows** and related policies over the **past six months**.
    - The report also provides medium-term projections of remittance flows to developing countries.

👉 Findings Related to India

- **India** has received the **highest amount of remittances** in **2020**. This was followed by China, Mexico, the Philippines, Egypt, Pakistan, France and Bangladesh.
- India's Remittances ➔ India has **received over USD83 billion** in remittances in 2020. This was despite the pandemic that devastated the world economy.
- India's remittances **fell by just 0.2% in 2020**. This was due to a 17% fall in remittances from the United Arab Emirates. However, this was offset by the resilient flows from the United States and other host countries.
- Remittances **outflow from India** in 2020 was **USD7 billion**. In 2019, it was around **USD7.5 billion**.

👉 Remittances

- Remittance is **money** usually **sent to a person in another country**. The sender is typically an immigrant and the recipient a relative back home.
- Remittances represent one of the **largest sources of income** for people **in low-income** and **developing nations**.

👉 Other Reports and Publication of WB

- Ease of Doing Business
- World Development Report
- Global Economic Prospects.

18. Malerkotla

Why in News?

- Recently, the Punjab Government has declared Malerkotla as the 23rd district of the state. It is adjoining Amargarh and Ahmedgarh districts.

About

- It was a Muslim majority state was established in **1454 A.D.** by **Sheikh Sadruddin-i-Jahan** from Afghanistan.
- Afterwards, rule by Sherwani descendants.
- The **state acceded to the union of India** in **1947** and was merged with other nearby princely states to create the Patiala and East Punjab States Union (**PEPSU**).

19. Mice Rain in Australia

Why in News?

- Recently, New South Wales (Southern Australia) has faced mouse plague due to sudden Mice Rain.

About

- Reason ➔ This sudden mice rain happens due to **unusually abundant grain harvest** this year.
- To control the plague, the government has now authorised the **use of a poison** called **bromadiolone**.
- Plague ➔
    - It is an **infectious disease** caused by **Yersinia pestis bacteria**, usually found in small mammals and their fleas.
    - The disease is transmitted between animals via their fleas and, as it is a **zoonotic bacteria**, it can also **transmit from animals to humans**.
- Key Points ➔
    - The mice have a **short breeding cycle** (a pair of breeding mice can give birth to a new litter every 21 days or so) and are **not very choosy about food**.
    - The rodents (which includes rats and mice) are the **second most successful mammals** on the planet **after humans**.
- Impact ➔ Rodents can cause **damage to food grains**, **domestic households**, **commercial businesses**, **farms**, manufacturers and livestock.
    - They can not only gnaw through materials but can also **ruin supplies by excreting them**.
    - Spread diseases such as **leptospirosis** and **typhus fever**.
    - They can also **carry fleas** or **ticks** that can **harm pets and humans**.

20. Protein–Antibody Conjugates

Why in News?

- The researchers from University of Massachusetts, in the U.S. have designed nanoparticles called Protein–Antibody Conjugates (PACs).

About

- The PACs combines **two different approaches** that can be used for targeted drug delivery to treat diseases. They are,
- **Biologics**, where the idea is to target a defective protein in the system by delivering proteins to it.
- **Antibody–drug conjugates** - Drug molecules can be attached to the antibody, forming drug–antibody conjugates.
- PACs have a **protein attached to the antibody** that can **precisely deliver drugs to specific cells**. This could have an impact on incurable diseases.
- PACs can be used to **treat undruggable cases**, because with proteins we can design drug molecules that will bind to the target.
- Significance ➔ This nanoparticle has the potential to **revolutionize disease treatment** including for cancer.
- Note ➔ **Antibodies** is a **protective protein** produced by the immune system in order to attack antigens. The **antigen is a toxin** or **other foreign substances** that induces an immune response in the body.

21. ELDERLINE

Why in News?

- In order to address the problems of elders in the context of the ongoing COVID pandemic, the Ministry of Social Justice has started state wise call centres in major states under the ELDERLINE project**.**

About

- The facility is already made operational in 5 major States of **UP**, **MP**, **Rajasthan**, **TN** and **Karnataka**. In Telangana, this facility has been working for more than a year.
- These call centres can be reached by **toll free number 14567**.
- All elders may be **advised to use this facility**.
- The ELDERLINE is a facility operationalised with the **assistance of Tata Trusts and NSE foundation**.

22. Blocktrack App

Why in News?

- Researchers at the Indian Institute of Technology-Madras have developed a mobile app named "Blocktrack"**.**

About

- What is it? ➔ It is a **blockchain-based secure medical data and information exchange system** for mobile phone applications.
- Aim ➔ The App aims to **digitise healthcare information systems**.
- At the same time the app will **protect sensitive personal information** and **medical records** by decentralising control and ownership of patient data using a blockchain-based innovation.
- Features ➔
    - Blocktrack is developed to **integrate primary healthcare**, **medical prescription**, **pharmacy**, **distribution and insurance network**.
    - The app has **two separate versions** — one for patients and another for doctors.
    - The app algorithm generates **identification codes** for users. This ensures uniqueness across boundaries with very little chance for duplication.

- The app allows for the **interoperability of systems** for multiple hospitals, institutes and healthcare organisations.

23. Colombo Port City Project

Why in News?

- A Chinese-funded tax-free enclave in Sri Lanka recently cleared the final legal hurdle as its Supreme Court gave it a go ahead.

About

- What is it? ➔ It is a **large-scale integrated city** being developed near Colombo, Sri Lanka. The city is being developed as a **Special Economic Zone**(SEZ).
- Aim ➔ It aims to **attract billions of dollars for trade**, **banking** and offshore services similar to what is available in Dubai and Singapore,
- Developed by ➔ China Communication Construction is developing the project through its subsidiary **China Harbor Engineering Construction** (CHEC).
- Administered by ➔ The Port City will be administered **by a commission with unprecedented powers** to fast track investment approvals.
- Benefits ➔ The **transactions** within Port City will be **denominated in foreign currency**. Further, all salaries earned by any worker of the Port City will be **tax-exempt**.
- Significance of the Project ➔ It is the **single biggest private sector development** in **Sri Lanka**. It is also expected to transform Colombo into a commerce, tourism and cultural hub.

24. FakeBuster

Why in News?

- Researchers at the Indian Institute of Technology, Ropar in Punjab and Monash University, Australia have developed a unique detector named 'FakeBuster' to identify imposters attending a virtual conference without anybody's knowledge.

About

- FakeBuster is a **DeepFakes Detection Tool** for Video Conferencing Scenarios.
- FakeBuster can **identify imposters** attending a virtual conference **without anybody's knowledge**. It enables the organizer to detect if another person's video is manipulated or spoofed during a video conferencing.
- It can also **find out faces manipulated** on **social media to defame** or make a joke of someone.
- The tool works in **both online and offline modes**. It is independent of video conferencing solutions like Zoom, Skype, etc.

👉 Deepfakes

- 'Deepfakes' are **real time mimicked visuals** (videos) in the **video-calling platforms** through spoofing tools based on transfer of facial expressions that are manipulated using artificial intelligence.
- They can even be **used during online examinations** and **job interviews**.

25. Corpse flower

Why in News?

- Over a thousand people queued up outside an abandoned gas station in San Francisco's Bay Area to catch a glimpse of the 'corpse flower'.

About

- The scientific name of the **rare plant**, **Amorphophallus titanum**, quite literally translates to giant, misshapen phallus — presumably due to its appearance.
- The 'corpse flower' is a **flowering plant**, which is native to the **rainforests of Sumatra in Indonesia**.
- In about a decade, the 'corpse flower' can grow to be up to **10 feet tall** and unveil two of its key components — a **deep red skirt-like petal** known as **the spathe** and a **yellow rod-like 'spadix'**.
- Another crucial component of the plant is the '**corm**', a **fleshy underground plant stem** which acts as a **storage organ** where the corpse plant's energy is stored. The unique plant is said to have **the biggest corm in existence**, sometimes weighing around **100 kgs**.
- The corpse flower is known to be one of the **world's largest 'unbranched inflorescence'** or a **stalk bearing** a **cluster of flowers**.
- The average corpse flower has a lifespan of about **three-four decades**.
- The flower is known for its **pungent stench**, which is said to be **similar to rotting meat** or a **decaying cadaver**.
- It was listed as an **endangered plant in 2018** by the International Union for Conservation of Nature (**IUCN**).

26. DIPCOVAN

Why in News?

- Recently, the Defence Research & Development Organisation (DRDO) has launched the DIPCOVAN.

About

- What is it? ➔ It is an indigenously developed **antibody detection-based kit**.
- Developed by ➔ The **Defence Institute of Physiology and Allied Sciences** (**DIPAS**), a laboratory of Defence Research and Development Organisation (DRDO).
- It has been developed in association with **Vanguard Diagnostics Pvt Ltd**.
- The Dipcovan kit can **detect both spike** as well as **nucleocapsid (S&N) proteins of SARS-CoV-2 virus** with a high sensitivity of 97 % and specificity of 99%.
- The kit has a **shelf life of 18 months**.
- The antibody detection kit is **approved by** the **Indian Council of Medical Research (ICMR)** in April 2021.

Antibody

- Antibody, also called **immunoglobulin is a protective protein** produced by the immune system in response to the presence of a foreign substance, called an **antigen**.
- Antibodies **recognize and attack onto antigens** in order to remove them from the body.

27. New York's Vax and Scratch Programme

Why in News?

- Recently, the New York's Governor Andrew Cuomo has announced Vax and Scratch Programme.

About

- What is it? ➔ It is a **new vaccination programme** that will **provide free lottery tickets** to those individuals over the age of 18 years who **choose to get vaccinated** from one of the ten state-run sites.
- Under the programme, lottery tickets that are otherwise **sold for $20** by retailers across the state, will be given free of cost to those above the age of 18.

28. Electronic Travel Authorisation(ETA) Scheme

Why in News?

- The United Kingdom (UK) has announced plans for a fully digital border with the launch of Electronic Travel Authorisation Scheme.

About

- The scheme is similar to the U.S.-style electronic travel authorization. It will **pre-check the travellers coming to the U.K.**
- Under this, **visitors without a visa** or **immigration status** have to **apply** for an electronic permit before coming to the UK.
- Among those who would need the Electronic Travel Authorisation (ETA) would be **people arriving for short holidays** or **changing flights** in the UK.
- However, people who wish to **stay in the country for a long period** of time – for example over six months – would need to **obtain a visa rather than an ETA**.
- Benefits ➔
    - The system would **allow automated and early security checks**. It will stop foreign criminals from arriving in the country, with applicants only allowed to travel once they have been cleared.
    - The scheme will also make it **easier for the officials** to **count the numbers** coming into the country.

29. Sun Halo

Why in News?

- A mesmerising phenomenan — a rainbow around the Sun know as a Sun halo, was observed recently in Bengaluru.

About

- It is also known as **'22 degree halo'**, is an optical phenomenon that occurs **due to sunlight refracting** in millions of hexagonal ice crystals suspended in the atmosphere.
- It takes the form of a ring with a **radius of approximately 22 degrees** around the sun or the moon.
- Circular halos specifically are **produced by cirrus clouds**.
    - Cirrus clouds which are **thin**, **detached**, **hair-like clouds**.
    - These clouds are **formed very high up** in the atmosphere, at a height of over 20,000 feet.

30. Biohub

Why in News?

- Recently, the World Health Organization (WHO) and the Swiss Confederation signed a MoU to launch the first WHO BioHub Facility**.**

About

- This facility will be **part of the WHO BioHub System**, which was announced in November 2020.
- It will enhance the **rapid sharing of viruses and other pathogens** between laboratories and partners globally, in order to **inform risk assessments**, and **sustain global preparedness** against these pathogens.
- Significance ➔ The sharing of pathogens is currently **done bilaterally** between countries; **WHO BioHub will expedite the process**.

Type of pathogen	Description	Human diseases caused by pathogens of that type
Bacteria *Escherichia coli*	Single-celled organisms without a nucleus	Strep throat, staph infections, tuberculosis, food poisoning, tetanus, pneumonia, syphilis
Viruses *Herpes simplex*	Thread-like particles that reproduce by taking over living cells	Common cold, flu, genital herpes, cold sores, measles, AIDS, genital warts, chiken pox, small pox
Fungi *Death cap mushroom*	Simple organisms, including mushrooms and yeasts, that grow as single cells or thread like filaments	Ringworm, athlete's foot, tinea, candidiasis, histoplasmosis, mushroom poisoning
Protozoa *Giardia lamblia*	Single-celled organism with a nucleus	Malaria, "traveler's diarrhea" giardiasis, trypanosomiasis ("sleeping sickness")

- Potential ➔ The move is significant in the view of the novel coronavirus disease (**COVID-19**) **pandemic** and the need to **underline the importance of sharing pathogen information** to assess risks and launch countermeasures.

31. SeHAT OPD portal

Why in News?

- The Defence Minister has launched the 'Services e-Health Assistance & Tele-consultation (SeHAT) OPD portal**.**

About

- What is it? ➔ SeHAT OPD Portal aims to **provide tele-medicine services to the serving Armed Forces personnel**, **veterans** and their families of the three Services.
- The services will be **provided by defence services doctors** who are on regular duties.
- Developed by ➔ The portal has been developed and **maintained by** the **Integrated Defence Staff** & **Centre for Development of Advanced Computing** (C-DAC).
- The portal has been designed **on the lines of e Sanjeevani**, a similar free OPD service run by the Ministry of Health and Family Welfare(MoHFW) for all citizens.
- Significance ➔ As the portal provides **contactless consultations** in an easy and effective manner. The portal will **help reduce the load on hospitals and patients** from the armed services.

32. Louvre museum

Why in News?

- Recently, Laurence des Cars has become the first woman to be appointed the president of Louvre – the world's largest art museum in Paris**.**

About

- It is the **world's largest art museum**, based in **Paris**.
- It is also the **world's most visited museum**.

- It is **home to the Mona Lisa**, a classic that cultural organisations and art lovers across the world would love to exhibit.

33. Rwanda Genocide

Why in News?

- French President Emmanuel Macron at the Gisozi genocide memorial in Kigali seeks forgiveness over his country's role in the Rwandan genocide and seeks to reset relations after years of Rwandan accusations that France was complicit in the 1994 atrocities.

About

- The Rwandan genocide, also known as the **genocide against the Tutsi**, was a genocidal mass slaughter of Tutsi in Rwanda **by members of the Hutu majority government**.
- An estimated **more than 800,000 Rwandans were killed** during the 100-day period from April 7 to mid-July 1994.
- French Connection ➔
    - France maintained **close diplomatic ties with the Hutu dominated government**, ever since they gained independence.
    - During **1994's civil war**, France sent forces only after it felt that Tutsi rebels would defeat the Hutu militia. **France saved many Hutu plotters** of Genocide, even **gave them shelter/asylum** in France.
    - Therefore, some people blame that **France knew** and **helped Hutus to plot this genocide**.

Rwanda

- Rwanda is a **landlocked country** in central Africa. Its **Capital is Kigali**.
- Population composition: **Hutus** – majority, **Tutsi** –Minority.
- Rwanda is bounded to the north by **Uganda**, to the east by **Tanzania**, to the south by **Burundi**, and to the west by the **Democratic Republic of the Congo** (Kinshasa) and **Lake Kivu**.

34. ACCR Portal & Ayush Sanjivani App

Why in News?

- Recently, the Ministry of Ayush launched its Ayush Clinical Case Repository (ACCR) portal and the third version of Ayush Sanjivani App in a virtual event.

About ACCR Portal

- The Ayush Clinical Case Repository (ACCR) Portal is **conceptualized** and 7. It is a platform to **support both Ayush practitioners and the public**.
- Purpose ➔ The portal aims at **aggregating information about clinical outcomes** achieved by Ayush practitioners on a large scale.
- Significance of this Portal ➔

- Firstly, the portal will help the Ayush practitioners to **know approaches adopted by their colleagues** in the treatment of various patients.
- Secondly, the public can also go through the portal to **understand the strengths of various Ayush systems** in the treatment of various diseases.
- Lastly, the portal will not only benefit the Ayush practitioner and the public but will also **help widen the research** in the field of Ayush.

About Ayush Sanjivani app:

- Ayush Sanjivani app has been developed by the **Ministry of Ayush** and the Ministry of Electronics and Information Technology (**MeitY**).
- Purpose ➔ The app intends to **generate a significant study** and **data regarding the efficacy** of selected Ayush interventions. The data analyzed will be helpful for the further development of Ayush Systems.

35. India H2 Alliance

Why in News?

- To tap the opportunities in India's hydrogen economy and supply chain, a number of industries have come together to commercialize hydrogen technologies under India H2 Alliance (IH2A).

About India H2 Alliance (IH2A)

- It is an **alliance of energy and industrial firms** led by Chart Industries and Reliance Industries Ltd.
- The alliance will aid the government efforts towards:
  - Development of **National Hydrogen Policy and Roadmap by 2030**.
  - Creation of a **National Hydrogen Taskforce** and **Mission in PPP format**.
  - Establish **large scale exhibition projects** to spearhead its development, Creating a **National Hydrogen Fund**, and Developing Hydrogen-linked capacities covering hydrogen production, storage and distribution, industrial use cases, transport use cases and standards.
- This includes work on **building hydrogen economy and supply chain in India** with focus on blue and green hydrogen production and storage, such as
  - building **hydrogen-use industrial clusters** with industries like steel, refineries, fertilizer, cement, ports and logistics, and
  - **transport use-cases with hydrogen-powered fuel cells** in heavy duty transport
  - establishing **robust standards for storage and transport** of hydrogen in pressurized and liquefied form,
- The alliance will **collaborate with private sector partners**, the government and the public.
- Overall, the efforts from the alliance will help in reducing hydrogen production cost and achieve net zero carbon emissions by complementing national renewable energy and EV/battery-technology plans.

Quick revision (True/False)

1	**MACS 1407 ->** A device which converts Nitrogen Generator into Oxygen Generator.	
2	**Blue Moon ->** When two full moons appear in the same calendar month, the second is termed a "blue moon".	
3	**Karen rebels ->** Bangladesh.	
4	**Tianhe module ->** The ESA's Mission to study climate change in Earth.	
5	**Oldest Water on Earth ->** at a depth of 2.4 kilometres in Kidd Creek Mine in Canada.	
6	**Global Forest Goals Report 2021 ->** Released by UNEP.	
7	**Network For Greening Financial System ->** Secretariat is hosted by Vienna, Austria.	
8	**Attorney General of India ->** Constitution has fixed the tenure of the AGI – 5 years.	
9	**International Energy Agency ->** established in 1974 as an autonomous intergovernmental organization under the OECD framework.	
10	**Vorukh ->** is a Ukrainiaf n regions.	
11	**Operation Samudra Setu-II ->** aim to bring oxygen-filled cryogenic containers to India from abroad.	
12	**Asian Development Outlook 2021 ->** released by World Economic Forum.	
13	**Ebola virus disease ->** first discovered in 1976 near the Ebola River in what is now the Democratic Republic of Congo.	
14	**Putola Nach ->** is string puppetry of West Bengal.	
15	**United Nations High Commissioner for Refugees (UNHCR) ->** India is a party of UNHCR.	
16	**Democratic Republic of Congo ->** Horn of Africa country.	
17	**Group of Seven(G7) ->** consists of the US, UK, France, Germany, Italy, Canada, and China.	
18	**White-Bellied Heron ->** Critically Endangered.	

19	**Moorhen Yoga Mat ->** is a biodegradable and compostable yoga mat developed from water hyacinth.	
20	**Asiatic Lions ->** Namdapha National Park is the only abode of the Asiatic lion.	
21	**MayFlower-400 ->** is an anti-aircraft weapon system developed in the 1990s by Russia.	
22	**Nitrogen Dioxide ->** Irritates the human respiratory system & reduces lung function.	
23	**Olive Ridley Turtles ->** inhabiting only in warm waters of the Indian oceans.	
24	**Mucormycosis ->** bacterial infection. Caused by a group of molds called mucormycetes.	
25	**Venus and Uranus ->** rotate from east to west.	
26	**Dahla Dam ->** in Pakistan. built on the Arghandab River.	
27	**Pulayar Community ->** Meghalaya.	
28	**World Food Price Index ->** Released by World Health Organization.	
29	**Social stock exchanges ->** is a platform that allows investors to invest in select social enterprises or social initiatives.	
30	**Lumpy Skin Disease ->** caused by a kind of fungus called mucormycete.	
31	**Project MediCAB ->** initiative of the Office of principal scientific advisor and IIT Madras.	
32	**Christchurch Call to Action ->** India is not a member countries.	
33	**Battle of Haldighati ->** fought on 18 June 1576 between the forces Maharana Pratap; and the Mughal emperor Akbar's forces.	
34	**2-deoxy-D-glucose (2-DG) ->** drug accumulates in the virus-infected cells. Thereby, prevents virus growth by stopping viral synthesis and energy production.	
35	**Climate and Clean Air Coalition ->** to Reduce Short Lived Climate Pollutants is a unique initiative of G20 group of countries.	
36	**OSIRIS-REx Mission ->** is a spacecraft mission to study the Sun.	
37	**National Financial Reporting Authority ->** Its account is monitored by the Comptroller and Auditor-General of India.	
38	**IUCN ->** Founded: 1972, HQ: Nairobi, Kenya.	

39	**Al-Aqsa Mosque ->** Saudi Arabia.	
40	**Green Urja Award ->** Indian Renewable Energy Development Agency Ltd. (IREDA) has been conferred.	
41	**Hakki Pikki Tribal ->** Sikkim, Assam.	
42	**Operation Shakti ->** the operation by the Military of India that led to the capture of Goa, Daman and Diu and Anjediva Islands.	
43	**Indian Pangolin ->** IUCN Status: Critically Endangered.	
44	**Iron Dome Air Defence System ->** Russia.	
45	**Article 311 ->** allows for creation of an 'autonomous state' within Assam in certain tribal areas.	
46	**Sovereign Gold Bond Scheme ->** issued by the Department of Financial Services.	
47	**Amphotericin B ->** to treat serious, possibly fatal fungal infections.	
48	**India has received the** highest amount of remittances in 2020 in world.	
49	**Mission for Integrated Development of Horticulture ->** Central Sector Scheme.	
50	**Securities and Exchange Board of India (SEBI) ->** Non-statutory body.	
51	**NOK Culture ->** existed in modern-day central Asia from around 500 B.C.E. to 200 C.E.	
52	**Red-eared Slider Turtle ->** an invasive species native to the United States of America (USA) and Northern Mexico.	
53	**Bonda Tribe ->** Found in Madhya Pradesh.	
54	**Yaogan Satellites ->** is a NASA Earth observation satellite.	
55	**Beema Bamboo ->** is a superior clone, selected from Bambusa balcooa, a higher biomass yielding bamboo species.	
56	**PM-KISAN ->** Central Sector Scheme. implemented by the Ministry of Rural Development.	
57	**Subdoluseps nilgiriensis ->** discovered an Asian gracile skink species from Meghalaya.	
58	**Helmand ->** Palestinian territories occupied by Israel.	

59	**Winchcombe ->** The Chinese anti-satellite system.	
60	**Common crane ->** largest birds in Ireland.	
61	**Elephant Seals ->** endemic to Indian ocean.	
62	**Jagannath Temple ->** located in South bank of Kaveri river in Thanjavur, Tamil Nadu, India.	
66	**The Sulawesi cave art is much older than the prehistoric cave art of Europe**.	
67	**National Commission for Protection of Child Rights ->** Ministry of Social Justice and Empowerment.	
68	**Electoral Bonds ->** Reserve Bank of India (RBI) issues electoral bonds.	
69	**World Wide Fund (WWF) ->** non-governmental organization. HQ - Gland, Switzerland.	
70	**Snow leopard ->** IUCN Red List: Endangered.	
71	**Copernicus Sentinel-1 mission ->** NASA Mission for sea ice observations.	
72	**E-Way Bill ->** mandatory for inter-state transportation of goods valued over Rs. 50,000 from April 2018.	
73	**Agricultural and Processed Food Products Export Development Authority (APEDA) ->** works under the Ministry of Agriculture and Farmers Welfare.	
74	**Tlatolophus galorum ->** identified in Mexican state of Coahuila.	
75	**National Archives of India ->** is a custodian of the non-current records of enduring value of the Government of India.	
76	**White fungus ->** caused by a group of molds called mucormycetes.	
77	**Corpse flower ->** native to the rainforests of Sumatra in Indonesia.	
78	**Paracel Islands ->** in the Indian Ocean, that spans across the equator.	
79	**New Big 5 project ->** Created by United Nations Environment Programme.	
80	**INS Rajput ->** nuclear-powered ballistic missile submarines.	
81	**Kyasanur Forest Disease ->** virus is maintained mainly in hard ticks (Haemaphysalis spinigera), monkeys, rodents and birds.	

82	**Sunderlal Bahuguna ->** one of the founders of the Chipko, or hug the tree movement, in the 1970s.	
83	**Farzad B Gas Field ->** Afghanistan.	
84	**Cartagena Protocol on Biosafety ->** aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way.	
85	**Mount Nyaragongo ->** Indonesia.	
86	**17+1 Project ->** is a China-led format founded in 2012 in Budapest.	
87	**Protected Planet Report 2020 ->** Released by World Wide Fund for Nature (WWF) and the International Union for the Conservation of Nature (IUCN).	
88	**Banni Grassland ->** Rann of Kutch in Kutch District, Gujarat.	
89	**India is the largest producer of litchi (Litchi chin) in the world**.	
90	**Technology Development Board ->** non-statutory body.	
91	**WHO BioHub Facility ->** enhance the rapid sharing of viruses and other pathogens between laboratories and partners globally.	
92	**One Stop Centre(OSC) Scheme ->** Centrally Sponsored Scheme.	
93	**UN Human Rights Council ->** created in 2006. has 47 members.	
94	**Rwanda ->** located on the southeast coast of Africa.	
95	**Bhitarkanika National Park ->** India's second-largest mangrove forest. located in Odisha.	
96	**Dominica ->** is an island country in the Caribbean.	
97	**National AI Portal (INDIAai) ->** joint initiative by the Ministry of Electronics and IT (MeitY), National e-Governance Division(NeGD) and NASSCOM.	
98	**Section 304-B of IPC ->** defines rape as a criminal offence.	
99	**Mid-Day Meal scheme ->** Students up to Class VIII are guaranteed one nutritional cooked meal at least 200 days in a year.	
100	**Non-Aligned Movement ->** established in 1961 in Belgrade, Yugoslavia.	